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EDITORIAL

*

GROWTH

THE Amateur population of Australia is growing. From some 3,000 in 1957, it is now over the 4,000 mark in 1961—this is quite a spectacular increase by all standards, but it may be even more surprising to learn that in other countries, such as Japan, the growth has been even more prolific. There, in a period of some three years, the population has grown from 3,500 to over 6,000—nearly double. In approximately the same proportions, the W.I.A. and the J.A.R.L. have also increased their memberships, but the Institute has now lost its status as the largest Amateur Society in Region 3. Our aim should be to reclaim that status.

The popular catch phrase—"It pays to advertise"—has always been enunciated as a healthy policy of the Institute, but it was substantiated with a vengeance a few weeks ago. It started from a short article on Amateur Radio in the January Reader's Digest. This excellent publication has a wide distribution throughout Australia and its articles are read by thousands of people and it was gratifying to the Institute that nearly 70 of its readers wrote asking for more details of our universal hobby. These enquirers were widely spread throughout the Commonwealth, and such a response to one short article was unexpected. Naturally your Executive took this opportunity to

endeavour to recruit some new members from those interested enough to enquire.

This wonderful response produced a counter reaction—it pointed out that there are still many citizens in Australia and elsewhere who have no idea at all what Amateur Radio means or represents. Whilst it is always pleasant to receive free publicity from unsolicited sources, the matter rests squarely on our own shoulders to promote our own advertising and recruit drives. The Divisions have done a good job in the last few years in maintaining our membership and in most cases of increasing it. However, no one would be foolish enough to say that more could not be done in this direction.

If our Institute, the oldest Amateur Radio society in the world, is to maintain the status we hold and to continue to grow, we must be prepared to engage in even more strenuous efforts to obtain new members. If every member of the Institute publicises the work and worth of the Amateur in his business and social activities, and obtains only one new member, then our present strength in a very short time will be doubled. The veracity of the phrase—"It pays to advertise"—will then be ideally demonstrated.

FEDERAL EXECUTIVE.

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HIGH STABILITY V.F.O.'S. OF RECENT DESIGN*

YU1FR introduces Amateurs to some new European ideas on extremely stable v.f.o.'s.

TIMA POPOVICH, YU1FR, ex-YU7BJ

In spite of the wide commercialisation of Ham gear these days, there are still enthusiasts who prefer to build their rigs at home. But, if only for the sake of our own edification, it will do no harm to discuss a few of the recent improvements in oscillator design, in some detail.

The problem of obtaining high frequency stability in variable frequency oscillators always presents a hard nut to the constructor, and not only to the Amateur constructor. No wonder that many efforts were made throughout the years, particularly since W.W. II. (both by Amateurs and Manufacturers) to develop and improve oscillator design in such a way as to approach stability characteristics close to those of crystal controlled oscillators.

There are a few oscillator types, developed experimentally by the laboratories of some radio manufacturing firms, in which frequency stability in continuous operation goes up to ± 0.001 per cent. Because of their great stability and relatively simple design, these devices are quite tempting to the Amateur builder, too. Of course, built with Amateur resources, similar devices will be less perfect, but still superior to the conventional oscillators.

Basically, all these circuits are of the electron coupled type with certain experimentally developed improvements.

CZECH TESLA OSCILLATOR

The Czechoslovak "Tesla" laboratories have developed an oscillator which presents considerable improvements over the popular series tuned Colpitts (better known as the Clapp circuit). Just as in the case of the Clapp, the coupling between the oscillating tank circuit and the tube is very loose. However, an important improvement is the fact that, unlike the Clapp, not only is the input capacitance of the tube shunted by capacitors of large value, but also the other interelectrode capacitances. This results in better stability by eliminating tube interelectrode capacity changes, as well as changes due to fluctuations of electrode voltages.

This oscillator is characterised by a remarkable frequency stability and low harmonic content, as well as constant output power over an extended frequency range.

The high stability of the "Tesla" oscillator offers the possibility of building it for any desired band without resorting to frequency doubling or tripling, usually necessary in compact mobile equipments.

The schematic diagram and component data, as presented by the Roumanian magazine¹ are shown in Fig. 1. The tuned circuit data is listed in the table.

* Reprinted from "CQ," December, 1960.

¹ "Radioamatorul," February, 1957, p. 24. Official publication of A.V.S.A.P., Bd. Dacia 13, Bucharest, Roumania.

Tuning is accomplished by the variable capacitor C9. Better results are obtained by using a ganged, double section capacitor, whose second section C10 should be connected across C1. This, however, involves more complicated construction. The range of bandwidth depends upon the values of the capacitors C1, C2, C3, C4 and C9.

Coil inductions are adjusted by powdered iron cores. The Table contains data for six different Amateur bands, and the values for the 72-73 Mc. frequency range are given to make possible the coverage of the 144-146 Mc. band by doubling in a subsequent stage.

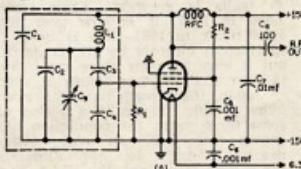


Fig. 1—The "Tesla" oscillator circuits and L/C charts developed in a Czechoslovak laboratory. Circuit A uses a single tuning capacitor while B employs a dual unit, C9 and C10.

actor (from oscillator plate to the following stage) should not exceed 100 pF in value.

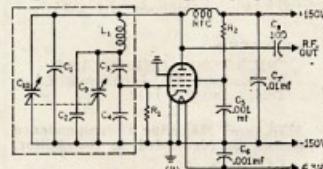
For break-in operation the oscillator may be keyed in the cathode circuit.

For the 72-73 Mc. band, C4 is the tuning capacitor.

CLAPP-FRANKLIN OSCILLATOR

Another factory conceived highly-stable oscillator, successfully built and employed by some European Amateurs, is the so-called Clapp-Franklin oscillator, developed by the German Telefunken laboratories.²

As the name itself indicates, this design combines the good properties of



Band Mc.	$L_1 \frac{mH}{uH}$	No. of Tunes	Wire Gauge No. & S	Tuning with Single Capacitor C_9				Tuning with Two Gang Capacitors C_9-C_{10}			
				$C_1 \frac{mmf}{mmf}$	$C_2 \frac{mmf}{mmf}$	$C_3 \frac{mmf}{mmf}$	$C_4 \frac{mmf}{mmf}$	$C_1 \frac{mmf}{mmf}$	$C_2 \frac{mmf}{mmf}$	$C_3 \frac{mmf}{mmf}$	$C_4 \frac{mmf}{mmf}$
1.8—2.0	25.0	46	30	365	30	4800	470	25.0	500	25	5000
2.5—3.8	13.0	35	28	285	20	2600	250	125	245	12	2350
6.6—7.15	7.0	24	24	140	10	1470	130	11.0	134	7	1250
14.0—14.35	3.5	17	27	68	—	700	68	11.0	62	5	600
21.0—21.45	2.5	14	20	44	3	475	37	5.5	41	2	350
28.0—29.7	1.7	12	18	31	3	380	20	11.5	26	2	210
72.0—73.0	0.7	1.7	14	8.5	—	130	2.8	1.5	7	—	150
L1 wound on 15 mm. diameter form (0.5905 inches).											

* Original article shows C_9 as 0 mmf. This is probably an error, suggests Timu, and should be in the vicinity of 10 mmf.

Table I—Component values for the single and double tuned Tesla oscillators shown in fig. 1. The 72-73 Mc range is provided for doubling, in a subsequent stage, in the 144-146 mc band.

Tubes recommended are 6AK5, 6ACT or similar types. Certain dual triodes may also be used. In this case, one of the triodes serves as the oscillator, while the other one is used as an amplifier. For good results, only high quality components should be used.

The tuned circuit is housed in a shielded box. Special care must be taken to provide mounting of the components to permit spacing the coils well away from the sides of the box (at least two times the diameter of the coil), to prevent drastic reduction of its Q by the shielding.

Resistor R2 is chosen within the limits of 1,000-10,000 ohms. Upon its value depends the coefficient of harmonics at the oscillator output.

The value of R1 is chosen between 27,000-75,000 ohms. The coupling cap-

the Clapp and Franklin oscillators into one unit, tending at the same time to minimise their respective deficiencies.

The Franklin circuit, shown in Fig. 2(A) contains two tubes, one of which acts as the oscillator proper, while the second one serves as an amplifier and phase inverter. Values of the components are chosen so as to ensure a very loose coupling between the oscillating tank circuit and the tube, just as in any high stability unit. As a result of the negligible influence of the tube elements on the frequency generating tank circuit, the frequency stability of the Franklin oscillator comes comparatively close to that of a crystal controlled unit. The amplified feedback voltage

² YOSFT, "Radioamatorul," March, 1957, p. 16.

is returned to the grid through a small capacitance.

In the Clapp circuit, shown in Fig. 2(B) a high Q circuit is assured in a somewhat different way. The tube is tapped across only a small portion of the oscillating tank circuit by means of a capacitive voltage divider consisting of three capacitors in series across the coil. The resulting tank circuit has a high L/C ratio, thus providing a low tank current. In addition, the values of C1 and C2 are quite high compared to the tube capacitances. Hence, possible changes of tube interelectrode capacitances during operation cannot appreciably affect the frequency of the tankcircuit.

The greatest shortcoming of the Clapp circuit rests in the low value of the radio frequency output voltage generated, which is dependent upon the setting of the series tuning capacitor. This results in uneven excitation of the following stages. The broader the band, the more pronounced the undesirable effect.

This inconvenience is overcome in the Telefunken circuit by combining the Clapp and Franklin circuits.

As shown in Fig. 2(C) the feedback voltage is not applied to the grid of the oscillator tube, as in the Franklin circuit, but to the junction of the two

voltage dividing capacitors, C1 and C2. The use of the conventional parallel tuned tank circuit produces a constant output power over a broad frequency range. This in turn provides level excitation of the following stages.

Fig. 2(D) shows the schematic of the tried and proven oscillator developed at Telefunken.

The resonant tank circuit is tuned to 3.5 Mc. The output power is approximately 1 volt effective, and output impedance is 100 ohms. For better thermal compensation, C1 is made up of combination of two parallel ceramic condensers, 15 pF. and 35 pF. respectively.

Tubes V1 and V2 may be triodes, or triode connected pentodes. A dual triode having separate cathodes can also be used.

Tube V3 is a high conductance pentode in a cathode follower circuit. The plate of this tube is shorted to ground for r.f. by a 5,000 pF. ceramic capacitor. Capacitor C2 is also ceramic, while C3, C4 and C5 are micas.

For the required inductance of 21 μ H, the oscillator coil should be 25.5 turns of No. 24 wire on a ceramic form 1/4 inches in diameter.

For wiring, No. 18 (or larger) wire is recommended. Particular care should be given to mechanical stability and rigidity of the entire unit, as well as to the quality of the components.

The unit should be placed in a metal box, lined with two or three layers of heat insulating material.

RADOSLAV CIRCUIT

The v.o. circuit to follow is an Amateur design presented by Rakar Radoslav in the "Radioamater" magazine,³ the official publication of the Yugoslav Amateur Radio Union (S.R.J.).

Figures 3(A) (B) and (C) illustrate how subsequent improvements were developed in the famous e.c.o. and Clapp circuits, by retaining and combining their desirable properties.

The resulting oscillator circuit has a crystal-clear note of constant pitch, excellent frequency stability characteristics and the device is easy to build.

The improvements in the e.c.o. and Clapp circuits are as follows:

(a) In the Clapp circuit, the capacitive voltage divider connected between the grid and ground does consume a certain amount of the already small energy available at the grid. In the newly developed circuit the cap-

³ Radoslav, R., "Radioamater," p. 134, July-August, 1954; Official publication of the S.R.J., Postanski fab 324, Belgrade, Yugoslavia.

acitive voltage divider is connected between the plate of the oscillator tube and ground. The amount of r.f. energy available at the plate is being much higher, the possible effect of losses upon the circuit are of little consequence.

(b) In the Clapp circuit the suppressor grid serves as an electrostatic shield inside the tube, provided a pentode is used. In this circuit this is accomplished by the control grid with improved frequency stability.

(c) In the Clapp circuit the capacitors forming the capacitive voltage divider reach 1,000 pF. in value, while in this circuit they are of 2,000 pF. each. This insures a better cancellation of the results of changes in interelectrode capacitances during operation.

(d) In the Clapp circuit only the grid to cathode capacitance is shunted by a large capacitor, while in this circuit changes in all the interelectrode capacitances of the tube (grid-vathode, grid-plate, plate-cathode) are cancelled out.

(e) The working quality of the Clapp circuit, according to its designer:

$$N = 10 \sqrt{\frac{g_a Q}{f C_m}}$$

while in this circuit:

$$N = 10 \sqrt{\frac{g_a Q}{f C_m}}$$

Where: N is quality of the circuit.

g_a is tube transconductance.

Q is the quality factor of the inductance.

f is the operating frequency.

C_m is the resulting capacitance of the capacitive voltage divider and minimal capacity of the series tank circuit.

a is the amplification factor of the second tube.

Reference to the above equations indicates that, in this circuit, the highest usable frequency, conditions and quality of the components being equal, is considerably higher than with the Clapp.

Further advantages of this circuit in comparison with the conventional types of oscillators follow:

- ★ The cathode coupling system insures a very strong feedback of the current type, which is constant over a broad frequency range;
- ★ The output voltage has a medium amplitude of purely sinusoidal shape;
- ★ The separation is purely electronic;
- ★ The stability of the unit is comparable to that of a crystal controlled unit.

Fig. 3(C) shows the effective circuit diagram of the v.o.

It works on the following principles: When the high voltage is applied, oscillations will take place in the series tank circuit LC. Since the two 2,000 pF. capacitors (which serve to nullify changes in interelectrode capacity) are connected across the tank circuit, a current flows through the resulting capacitive voltage divider, bringing about voltage drops equal in value but opposite in phase, across each of its elements. Thus, at the point at which the grid of V2 is connected to the capacitive voltage divider the h.f. potential is zero. Since the voltages at the extre-

(Continued on Page 7)

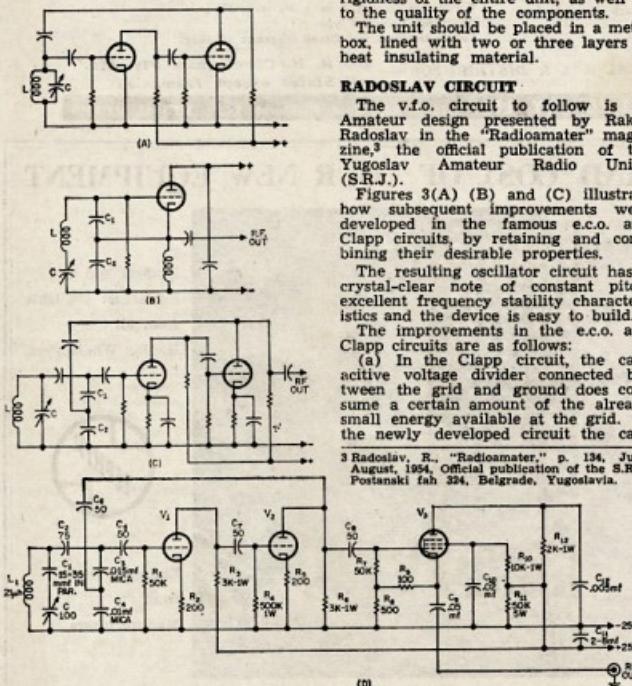


Fig. 2-A—the basic Franklin circuit. B—the basic Clapp circuit. C—Fundamental circuit of the combined Clapp-Franklin oscillators. D—the circuit of the Clapp-Franklin oscillator as developed at Telefunken.

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D.C. Output Power: 60 watts maximum.

D.C. Input Current: 5.9 amps. at 60W. output.

D.C. Output Voltages (14 V. in.): 400, 300, 200 or 150 V.;

400 & 200 simultaneously or 300 & 150 simultaneously.

D.C. Output Current: 150 mA. maximum total from full and half voltage taps or 150 mA. each if switched to alternate loads.

Efficiency: 78% at 60 watts output.

Operating Frequency: 1 Kc/s.

Maximum Operating Temp. (i.e. ambient air temp. at point of installation) 150° F. (approx. 65° C.).

Filtering: Adequately filtered in full voltage output lead and provision for filtering in half voltage output.

Dimensions: Overall: 8 in. x 3½ in. x 3½ in.

Mounting: Universal type.

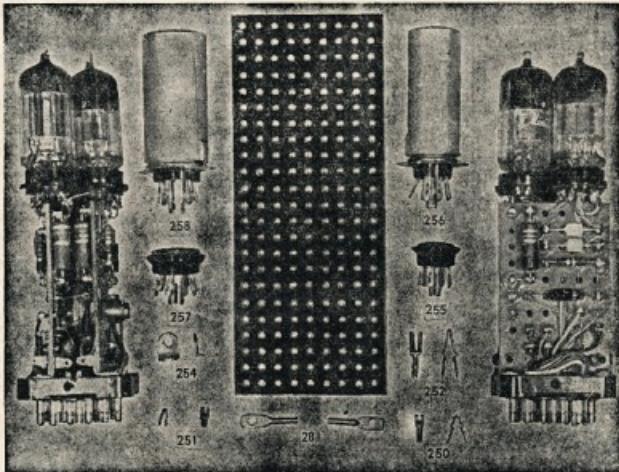
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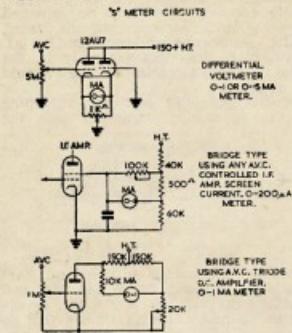
ZEPHYR PRODUCTS PTY. LTD.

58 HIGH STREET, GLEN IRIS, S.E.6, VIC.
Phones: BL 1300, BL 4556

ply having a change-over switch system to enable transmit and receive operation.

A word or two of warning! Don't strain the ceramic shafts on the tuning condensers in the receiver. They will break if handled roughly. Run the equipment on lower than 300V. h.t. rather than above this figure as the condensers fitted in a lot of 522s are very prone to voltage failure.* If you modify the receiver for continuous tuning, don't fail to disconnect condensers 202.13 and 202.14 or else you'll get no oscillation. Try to obtain correctly sized Bristo keys to remove the tuning head flexible couplings as substitute tools usually ruin the grub screw. The output transformer may be replaced by a 3.2 ohm output transformer. If this is done, remember transformer 296 contains an h.t. choke and if removed the h.t. line must be rejoined.

If you possess a BC624C receiver, practically no modification of the receiver audio will be required. The interphone transformer 295 may be removed and if desired an extra tube may be added to operate an S meter—see suggested circuit.



The BC624AM receiver may be further improved by using the 12J5GT 2nd audio stage as a voltage amplifier to drive a power output stage employing a 12A6, 12AQ5, etc. This may be accommodated in 295's position. The crystal oscillator half of the 12AH7GT is available for S meter use.

The BC624A requires most modification and perhaps the best approach here is to modify it to BC624C standard, plus extras to your own desire.

Double conversion may be included by removing 296 and substituting 292 or 293 to this position. Modify one of the i.f. windings of the re-located i.f. by providing a tap on the winding. Use the modified winding to provide a second local oscillator by (a) using a triode-hexode or multi-grid converter tube in place of the 2nd i.f. amplifier (12SG7), (b) use the 4, 5, 6 section of the osc/squelch 12AH7GT twin-triode as a "hot cathode" Hartley oscillator and use cathode injection to the 12SG7 2nd i.f. amp. for mixing.

Remove all 12 Mc. i.f.'s other than 291 and install a 1600 KC. i.f. in each of the three vacated positions. Dis-

connect the a.v.c. feed to the new mixer stage, but retain it on the first stage of 1600 KC. i.f. If any tendency towards blocking becomes apparent in operation, apply partial a.v.c. to the second 1600 KC. i.f. amplifier. A 455 KC. i.f. could be used instead of 1600 KC. If this is done, pay attention to the second oscillator stability or, alternatively, provide a small trimmer facility for oscillator drift correction. If excessive selectivity is apparent using 455 KC. i.f.'s, stagger tune the 455 KC. train.

GENERAL CHARACTERISTICS AND INFORMATION

Transmitter Metering

Switch Position	Reading Obtained	Normal
1	1st harm. amp. plate	0.4
2	2nd harm. amp. plate	0.5
3	Power amplifier plate	0.63
4	R.F. diode—if fitted	0.3-0.5
5	P.A. grid current	Full scale

Receiver Selectivity

The receiver i.f. selectivity is such that a bandwidth of 110 KC. exists for 6 db. attenuation, 20 db. attenuation results at 90 KC. either side of resonance, whilst 40 db. attenuation is achieved 130 KC. from resonance.

Receiver Sensitivity

The receiver sensitivity over the tuned range averages 3.3 to 6 microvolts for 10 mW. output at 10 db. signal to noise ratio.

A.V.C. Characteristic

The receiver audio output will not vary in excess of +6 db. for a change in signal input from 20 to 100,000 microvolts under normal conditions. An output variation of +12 db. is given as the maximum acceptable test figure. The output at 20 microvolts input is rated as 0 db.

Image Rejection

The image rejection ratio at 145 Mc. is given as 17,000 to 1.

Transformers

A.F. Input 295: Prim. 1—pins 1 and 2; d.c. resistance 920 ohms; $Z = 250,000$ ohms. Receiver audio input.

Primary 2: pins 3 and 4; d.c. resistance 6.9 ohms; $Z = 750$ ohms. Dynamic mike intercom. input.

Secondary 1: pins 5 and 6; d.c. resistance 2,450 ohms; $Z = 1$ megohm. Grid drive.

Audio Output 296: Primary—pins 1 and 2; d.c. resistance 870 ohms; $Z = 15,000$ ohms. Plate load.

Tapped Secondary: pins 4, 5, 6 and 7; d.c. resistance 390 ohms; Z terms 4-7, 4,000 ohms; terms 4-6, 300 ohms; terms 4-5, 50 ohms. Audio output.

H.T. Power Output 2 and 3: h.t. filtering, 6 H., 340 ohms d.c. resistance.

Mike Input 158: C.T. primary—pins 3-2-1; $Z = 200$ ohms; d.c. resistance 5.2 ohms. Centre tapped microphone input.

Secondary: pins 5-4. $Z = 420,000$ ohms; d.c. resistance 4,000 ohms. Grid drive. 60 cycle test, ± 2 db. 300-3,000 cycles. Level -40 db.

Interstage Audio 159: Primary—pins 2-3-1. $Z = 125,000$ ohms; d.c. resistance 1,050 ohms. Shunt plate load.

C.T. secondary: pins 3-4-5. $Z = 500,000$ ohms; d.c. resistance 2,750 ohms. Push-pull grids. 60 cycle test, ± 2 db. 400-3,000 cycles. Level 0 db.

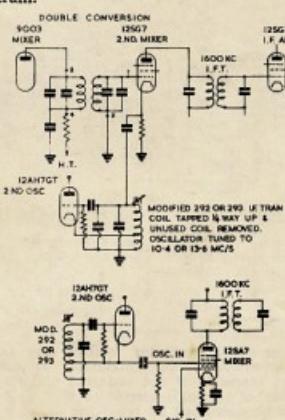
Modulation Transformer 160: C.T. primary—pins 3-2-1. $Z = 22,000$ ohms; d.c. resistance 690 ohms.

Secondary: pins 4-5. $Z = 5,500$ ohms; d.c. resistance 170 ohms.

Relays

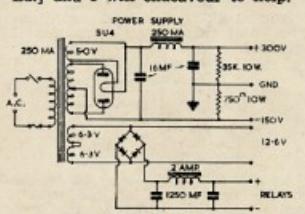
130: Slow release relay. No information available.

131: D.p.d.t. and s.p.s.t., 150 ohms. 12v. d.c. normally de-energised, contactor (m.c.w. tone) relay.



In the event that you prefer to build rather than modify equipment, the 522 is still a good buy! A host of good quality components may be salvaged—the modulation transformer and driver transformer are an ideal mobile combination. Components ex 522s have been used in g.d.o.'s, oscillators, monitors, transmitters, etc. Coils 227.1-4 are excellent 7 Mc. coils!

If you have any queries on components or circuit parameters, or if you require further information on this equipment you may write to me [enclosing a stamped addressed envelope.—Ed.] and I will endeavour to help.



NOTE:-

- If fixed bias retained in transmitter, use circuit shown with 385-6-385v. transformer.
- If grid leak bias used in transmitter earth transformer centre tap and first electrolytic and one 750 ohm resistor, use 285-285v. transformer.
- Use selenium or silicon rectifiers for relay supply. Remove all relay earth returns and complete relay circuits via common negative line. Both relay positive and negative lines must be above earth.

* It is a wise precaution to test all condensers before using.—Ed.

161: S.p.s.t. 200 ohms. 12v. d.c., opens when energised, press to transmit control.

412: D.p.d.t., one section has extra contact to ground receiver on transmit. 150 ohms, 12v. d.c. Antenna change-over.

246: S.p.s.t., 5,000 ohms. 4 mA. operates with current change of 0.2 mA. Squelch relay.

411.1 and .2: 13.4v. d.c. Locking S.p.d.t. 1 locking relay, 2 motor control.

Next time I will discuss the MN26 Compass equipment. Anyone having a p.m.-mod. he'd like to pass on could drop me a line and it will be included.

As it is intended that this series of articles, describing disposals equipment should provide for the maximum demand, you are requested to write me if you wish a particular unit to be featured. The list of available information covers most popular releases, so drop a line and state your needs. •

BOOK REVIEWS

A.R.R.L. ANTENNA BOOK

A most comprehensive treatise on Amateur antennas. 318 pages packed with all the latest information on antennas and matching systems for fixed and mobile stations.

The 1960 edition is one of the standard A.R.R.L. publications which is revised from time to time. It is a book which should be in the library of every Amateur. Published by the A.R.R.L., Australian price 31/- plus 1/6 postage. Our copy from McGill's Authorised News-agency, 183 Elizabeth St., Melbourne, Vic.

SURPLUS RADIO CONVERSION MANUAL, VOL. 3

For a number of years I have had Volumes 1 and 2 in my library and I have found their cost low in relation to their value as they give much valuable information on a large number of items which are available on the Australian disposals market.

This new volume goes into more detail on a lot of modifications that are not covered in the other volumes. Almost forty disposals items are covered including the conversion of a BC458 into a phasing type s.s.b. transmitter capable of over 100 watts peak power output on 3.5 or 14 Mc.

Published by Editors and Engineers of U.S.A. and edited by William L. Orr. Australian price 33/6 plus 1/- postage.

Our copy from McGill's Authorised News-agency, 183 Elizabeth St., Melbourne, Vic.

"A Guide to Amateur Radio"

Copies of the eighth edition of this excellent publication of the Radio Society of Great Britain are available from the Federal Treasurer, Bob Boase, VK3NI, 65a Franklin Street, Melbourne, at 5/-, post paid. Among the subjects covered are design and operation of communications receivers (including suppressed carrier reception), power supplies, transmitter design and operation, keying, telephony, aerials, frequency measurement, and other aspects of Amateur operation. There is also a great deal to interest the beginner and the person contemplating breaking into Amateur Radio.

HIGH STABILITY V.F.O.'S. OF RECENT DESIGN

(Continued from Page 3)

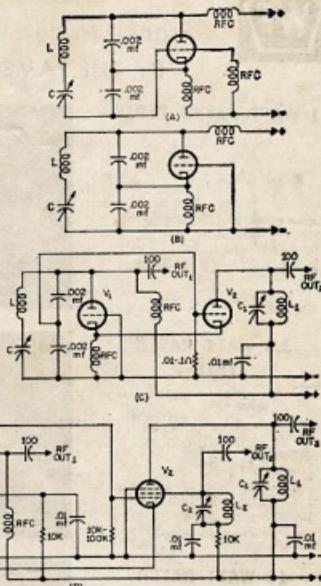
ities of the series tank circuit are opposite in phase, the control grid of V2 is opposite in phase with the plate of V1.

The voltage at the control grid of V2 changes its bias, and after being amplified in the cathode circuit, excites V1, which inverts the phase and acts as a grounded grid amplifier. After the phase inversion, the h.f. oscillations are added to those of the plate circuit of V1 and boost the oscillations in the LC circuit. The h.f. output can be drawn through a 100 pF capacitor from either the plate of V1, or that of V2. If the output of V2 is to be used, the tank circuit L1C1 can be tuned to any desired higher harmonic of the fundamental frequency. In this latter case, V2 serves either as a buffer, or as a frequency multiplier. A resonant choke can be substituted for the L1C1 tank circuit if preferred.

Fig. 3(D) presents the same circuit using pentodes instead of triodes.

It is desirable, although not a strict necessity, to use voltage stabilisation in power supplies with all the above v.f.o. units. •

Fig. 3-A-B-C-The development steps in the oscillator designed by Raker Radosavl. Output may be taken from V1 or V2 as explained in the text. D-A pentode version of the oscillator shown in C above.



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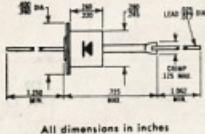




The Warburton
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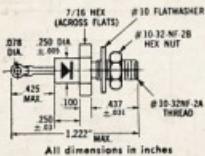
1 WATT RATED TYPES



All dimensions in inches



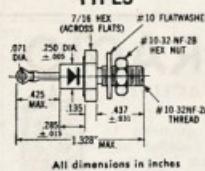
3.5 WATT RATED TYPES



All dimensions in inches



10 WATT RATED TYPES



All dimensions in inches



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Designed for pigtail mounting and chassis mounting or cooling fin for high power dissipation, these Silicon Zener Diodes are extremely stable and rugged voltage regulator devices. They have been developed and process-selected to provide exceptionally low dynamic resistance and sharp zener characteristics over the entire operating current range.

Ratings and Characteristics at 25°C Ambient

JETEE TYPE	INFL. TYPE	ZENER VOLTAGE RANGE		TYPICAL DYNAMIC RESISTANCE Z _d (OHMS)	ID MAX.	NOMINAL TEMP. COEFFICIENT % / °C
		VOLTS	# (z ms.)			
IN1518	I2 3.9	3.6-4.3	50	9	250	-.04
IN1519	I2 4.7	4.3-5.1	40	6.5	200	0
IN1520	I2 5.6	5.1-6.2	35	5.5	175	+.03
IN1521	I2 6.8	6.2-7.5	30	1.6	150	+.05
IN1522	I2 8.2	7.5-9.1	25	1.1	120	+.06
IN1523	I2 10	9.1-11	20	1.5	100	+.07
IN1524	I2 12	11-13	15	2.4	80	+.075
IN1525	I2 15	13-16	13	5.4	65	+.08
IN1526	I2 18	16-20	10	11	55	+.085
IN1527	I2 22	20-24	9	18	45	+.09
IN1528	I2 27	24-30	7	28	35	+.095

CLOSE TOLERANCE TYPES AVAILABLE 5%, 10% and 20% AS LISTED BY THE STANDARD RETMA DECADE SYSTEM

ALL STANDARD TYPES AS LISTED AVAILABLE FROM STOCK

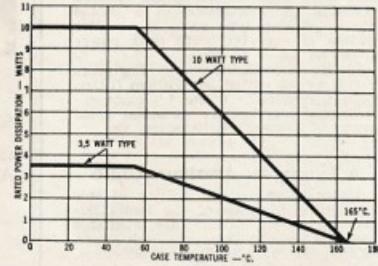
RATINGS AND TYPICAL CHARACTERISTICS

JETEE TYPE	INFL. TYPE	ZENER VOLTAGE RANGE		TYPICAL DYNAMIC RESISTANCE Z _d (OHMS)	ID MAX.	NOMINAL TEMP. COEFFICIENT % / °C
		VOLTS	# (z ms.)			
IN1588	I2 3.9	3.6-4.3	150	2.6	850	-.04
IN1589	I2 4.7	4.3-5.1	120	2.3	700	0
IN1590	I2 5.6	5.1-6.2	110	1.4	625	+.03
IN1591	I2 6.8	6.2-7.5	100	.58	525	+.05
IN1592	I2 8.2	7.5-9.1	80	.45	425	+.06
IN1593	I2 10	9.1-11	70	.7	350	+.07
IN1594	I2 12	11-13	50	1.4	275	+.075
IN1595	I2 15	13-16	40	3.4	225	+.08
IN1596	I2 18	16-20	35	6	200	+.085
IN1597	I2 22	20-24	30	9	160	+.09
IN1598	I2 27	24-30	25	13	125	+.095

RATINGS AND TYPICAL CHARACTERISTICS

JETEE TYPE	INFL. TYPE	ZENER VOLTAGE RANGE		TYPICAL DYNAMIC RESISTANCE Z _d (OHMS)	ID MAX.	NOMINAL TEMP. COEFFICIENT % / °C
		VOLTS	# (z ms.)			
IN1599	I2 3.9	3.6-4.3	500	.84	2500	-.04
IN1600	I2 4.7	4.3-5.1	400	.69	2000	0
IN1601	I2 5.6	5.1-6.2	350	.3	1750	+.03
IN1602	I2 6.8	6.2-7.5	300	.2	1500	+.05
IN1603	I2 8.2	7.5-9.1	250	.25	1200	+.06
IN1604	I2 10	9.1-11	200	.55	1000	+.07
IN1605	I2 12	11-13	170	.95	850	+.075
IN1606	I2 15	13-16	140	1.5	650	+.08
IN1607	I2 18	16-20	110	2	550	+.085
IN1608	I2 22	20-24	90	3	450	+.09
IN1609	I2 27	24-30	70	4.5	350	+.095

Derating of power dissipation vs. Case Temperature 3.5 watt and 10 watt series.



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11th ANNUAL CONVENTION OF N.S.W. DIVISION, W.I.A.

SUCCESSFUL THREE-DAY GATHERING

The 11th Annual Convention of the N.S.W. Division was held over the week-end of January 27-28-29, commencing with the general meeting at Science House, Gloucester Street, Sydney, at which there were quite a few who did not normally attend such meetings owing to their geographical locations.

The main part of the Convention took place on the following day at the home of VK2WI, the headquarters station of the N.S.W. Division, located in a bush setting at Dural, some 25 miles from Sydney. The day was perfect, if a little on the hot side, and from early morning there were many helpers on the site assisting in the preparations for the function. Much of the preparation for such an event as this had been done over the period of many months, usually by the few enthusiasts who gather at Dural each Sunday, and it is always pleasing to the Convention Committee to see others arrive early to assist in tying up the loose ends.

Registration commenced at an early hour, the registration tent being manned by Frank 2QL with later arrivals 2AZN, 2ACD, 2EG, R. Morris and his YL. Frank of course also was handing out the QSL cards to those registering. Total registrations for the day were 283 included among which were 30 ladies and 36 children.

The Convention was officially opened by the Divisional President, Bill 2YB, who suitably welcomed members and visitors, some of whom had travelled from distant parts of the State in order to meet many of the friends they have made over the years, and many of whom they had not previously met personally.

Much interest was taken in the large disposal store conducted by the Disposal Committee under the leadership of its chairman, Keith 2ABK, and ably assisted by Barney Smyth and many others during the day's activities. This

section attracted a large crowd during most of the afternoon and the gear available was of excellent quality.

Many excellent and interesting exhibits were arranged, including a stand organised by Harold 2AAH on transistorised equipment of a varied nature. Among the gear he was showing were some nine examples of miniaturised equipment, of course using transistors which attracted much attention and interest.

The next stand showed some very fine examples of commercial gear shown by Ron 2ALR, ably assisted by his son and ex-VR2DP. This consisted of the latest in Hallicrafters receivers and s.s.b. transmitters, and we feel was responsible for many checking over their small change and making mental notes on the desirability of the possession of these very fine pieces of equipment.

Leo 2AC took the day off from his daily duties to further the interest in s.s.b. among members. He showed a variety of his equipment and demonstrated to all the ease with which DX contacts can be made by the use of this mode. Among his helpers were Harry 2AJZ, Stan 2EL and Don 2ASW, all of whom are known as very keen s.s.b. men and who are all doing their level best to further interest in s.s.b. in this State.

The old timers' exhibit was organised by Joe 2JR, and with the moral support of Wal 2AXH provided a glimpse to the newcomer of what the gear was like in the old days.

Another display was organised by the V.h.f. and T.v. Group and was attended by many of the members of the Group during the afternoon.

The Secretary, Norm 2ALJ, was, of course, in attendance to offer assistance and advice to all and to collect any subscriptions offering.

During the afternoon, almost continuously in fact, the ladies prepared afternoon tea for all and for this very com-

mendable effort we have to thank Mrs. Duff, Mrs. Sobels, Mrs. Beard and Muriel Eagles, better known to all as 2AIA.

As the afternoon wore on, the 809 exhibit opened for the approval of all and again the dispensers of the amber fluid did a magnificent job under difficult conditions. Our helpers on this occasion were Ken 2XS, Ken 2ST and 2AGS.

Following a recess for the evening meal, the evening show commenced, and again the compere was Max 2MP. The first event was a Dutch auction for a Sunbeam steam iron, closely followed by a further Dutch auction for a transistor radio. The auctions were ably conducted by Philip 2ZBB.

The evening quiz was the next item on the programme and consisted of a technical quiz and a general knowledge quiz, the questions for which were nutted out by Harold 2AAH and Tim 2ZTM. The five contestants in each of the sections of the quiz, selected in the draw from the hat, all participated in the prize list for event, the winner of the technical quiz receiving a "Little Nipper" radio, donated by E.M.I. Ltd., and the other four participants received a Compass receiver, donated by the Disposals Committee. The winner of the general quiz received an "Astor Desk" fan, donated by Messrs. Martin de Launay Ltd.; the runners-up received a torch each.

Films followed and were enjoyed by the throng who were present for this part of the programme. For this showing we are indebted to Dave 2EO and Val 2VO.

The President closed this part of the Convention, thanking all who attended.

Sunday dawned a very hot day, the maximum temperature for the day being 106.9 degrees, with possibly a few more degrees to be added on at Dural. This did not deter the mobile boys from taking their part of the function and the bands were quite busy while they



Mobile Contestants.



Blindfold Transmitter Hunt.

were working from a radius of more than 20 miles from Dural. All gathered at Dural for lunch and a pleasant afternoon (despite the intense heat) was had by all.

Further thanks to Dave 2EO for the colossal job he did for the show and also as O.I.C. Dural; also to Tim 2ZTM and his helpers in the erection of the lighting and maintenance of the lighting plant which was running for most of the day. Our thanks also to those many who worked in the background and whose efforts contributed to the success of this Convention.

Our gratitude to the members of the Blue Mountains Section for their work in organising and running the blindfold transmitter hunt again this year, indeed a popular event for both not only the stermer sex, but also the ladies and children.

We are also indebted to the following business houses for their co-operation in donating such a fine prize list and for the technical information provided:

E.M.I. Ltd., Little Nipper radio;
Martin de Launay Ltd., Astor Deck fan;
A.E.I. Ltd., Hotpoint jug;
O.T. Lempiere Ltd., solder;
A.G. Healing Ltd., multimeter;
Mullard Ltd., valves, transistors and technical data;
A.W.V. Ltd., folders of technical data;
Lawrence & Hanson Electrics Pty. Ltd., Rola 6H loudspeaker;
U.R.D. Ltd., two open orders for £2/10/0 each.

The co-operation of these firms is much appreciated and illustrated the esteem in which the Amateur fraternity is held.

PRIZE LIST

Blindfold Tx Hunt—Gents: Graeme JESSOP; Ladies: Mrs. Wheaton; Boys: Greg Mackay; Girls: Susan Adams.

Tube Identification: 2DN.

Brass Washers in bottle of Nuts and Bolts: 2OM.

Series Resistors: 2DN.

Frequency of H.F. Coil: 2AIA.

Frequency of V.H.F. Coil: 2AIA.

Lucky Numbers: Gents: 2AFW.

Quiz Sheet: 2ZEX, 1st; 2OA, 2nd.

Most Popular Mobile: 1st, 2ASV; 3rd, 2AAH.

Morse Contest: 1st, 2EG; 2nd, 2OA; 3rd 2DO.

Mobile V.H.F./H.F. Contest: 2PM.

Mobile V.H.F. Contest: 2ZCF.

Mobile H.F. Contest: 2AAH.

2ADL, 2AQX, 2AJA, 2EL, 2IC, 2QJ, 2ZK, 2EG, 2ZMC, 2XT, 2FP, 2HC, 2NA, 2OK, 2LS, 2OH, 2AAJ, 2YU, 2OM, 2DM, 2GW, 2BP, 2AXB, 2AVT, 2JX, 2AKB, 2NK, 2EX, 2AAW, 2GE, 2VJ, 2NV, 2ZPG, 2ARA, 2OR, 2CS, 2DY, 2JJ, 3AHR, 2VN, 2APB, 2ZKO, 2PZ, 1ZCA, 2AKB, 2PY, 2GX, 2EI, 2ACQ, 2AFW, 2FY, 2TP, 2ZDW, 2ZC, 2HO, 2ZCW, 2AGS, 2ANQ, 2ON, 2ALA, 2AVJ, 2ALF, 2ZFA, 2KM, 2ASV, 2PM, 2ZPM, 2NG, 2OA, 2ZAB, 2RN, 2ZAF, 2ZDK, 2ASZ, 2ANN, 2OM, 2BG, 2AJQ, 2AT, 2AFQ, 2VL, 2AGR, 2ART, 2ALL, 2ZBS, 2AAF, 2OY, Messrs. Claridge, Gilbertson, Allen, Fury, Hickey, Atherton, Green, Harwood, Keane, McKenzie, Warren, Champion, Harker, Nelson, Smith, Sice, Lehman, Christian, Walker, Gibbes, Osborne, Jackson, Jessup, Taylor, Cronin, Wadland, Carrey, Walker, Risbridger, Lester, Hord, Murray, Rowe, Smith, Aggett, Hand, Summer, McLachlan, Sutherland, Burns, Gill, Barclay, Pollock, Mrs. Sobels.

*

"CALL BOOK MAGAZINE"

The Federal Treasurer again has for sale at £1, post paid, several back numbers (most in near-new condition) of this great directory of Hams. The following are available:

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V H F

David Tanner, VK3ZAT
C/o. British Nylon Spinners,
Bayswater, Victoria.

Once again we have come to the end of our main DX session on the v.h.f. bands. For some, this has been quite good and in the main, not as good as in previous years.

First, let us look at six metres. The season started well with quite a few short skip openings which seemed to auger well for the future. However, things became a lot quieter later on, leading to ZL being rare, even in VK5 and VK6, and other more exotic DX was almost non-existent. The decline in openings to JA and KH6 is certainly due to the decline in the sunspot cycle, but an explanation of the lack of Es openings is still forthcoming.

Activity on 6 metres in recent times at least was not that last year, and this could possibly account for some of the shorter openings being missed. For example, north-south openings during the mornings appeared quite frequently during week-ends and holidays, which indicates that the band would open during week days as well. A few more beacon stations such as VK6VK would give us more information on this state of affairs.

So much for 6 mx, what about 2 mx? The only feature on an otherwise uninteresting landscape was a few mx contacts between VK5 and VK6. Contest bands made up alone along the path before and could probably be done regularly if skips were made. Here in VK5, two metres seems to be but a shade of its former self, mainly due to the fact that the beam and whip experiments of larger arrays and better gear have left for greener pastures. Around the city at least, one of the shortcomings of the average 2 mx station is the antenna, although the construction of a reasonable one, twelve foot Yagi at least, should not be beyond the means of anyone. Remember, a large beam, well situated, helps to increase both the transmitted and received signals.

On the 1 mx front, new records have been made once again using stabilized equipment and adequately sized antennas. Work on 1 mx in VK5 has also indicated just what can be done using stable tx's, large antennae, narrow band rx's and also the use of c.w. or s.s.b. and these same techniques can be equally applied here. So how about it? Let's see what new horizons we can open up in the future.—ZAT.

VICTORIA

After an enforced absence due to shifting QTH and then a run of rx trouble, which I have not yet solved, I am back on the airwaves again. Thanks to David 3GV for carrying on in my absence. Unfortunately my comments are rather brief regarding 50 Mc. as I have only heard rather incomplete openings on this band. Thanks to Maurice Cox and Mac Hill for their information.

For January, 6 mx activity was pretty fair for the number of openings but not for the quality. 1st saw VK4, 5, 6, and heard VK5, 3rd, VK4, weak JA, then VK4 and 6, 4th and 5th brought VK4, VK5, VK6 and weak ZL. VK4 and VK5, 7th, ZL heard VK4, VK5, VK6, 13th, ZL and ZLZ came through worked here in Melbourne by a lucky few. For the rest of the month, VK4 and VK2 were in and out on quite a few occasions.

144 Mc.: Activity died quite a bit after the Contest until the 15th, when in particular, ER2ARZ had a consecutive day of openings. However, after making over 800 contacts on 2 mx only, I don't suppose we can begrudge him a rest from Amateur Radio. Incidentally, it wouldn't surprise me if Bill won the Contest without even entering.

On the DX front, nothing unusual until 23rd when David SAW had a really good signal into Melbourne. David worked quite a few amongst whom were 3EA, 3ALK, 3AZT and his XYL Elizabeth 3ZJT, 3ZLN, 3AAJ and 3JHN at Dandenong.

New calls noticed lately include 3EA, 3ARF, 3ZGL (ex-ZAL), 3JL, 3AZT and his XYL Elizabeth 3ZJT, 3ZLN, 3AAJ and 3JHN at Dandenong.

Frequencies of interest are: 5GJ, 144.55; 5CH, 144.60; 5ZCE, 144.60; 5AW, 144.64; 3NN, 144.65; 3ZL, 144.65; 3ZLN, 144.65. On the 23rd, David (ex-ZAL) worked ZLZ Wednesday night at 2000 hrs. looking for Melbourne contacts. 3AZX and 3AAK (290.00 Mc.) hope to keep the Melbourne end going. Joe 3CS is back on this band again and works 288.15 Mc. 3ZL has been working 3ZER/3 with 5 and 6 signals both ways. George cracked the jackpot on the 23rd when he worked SAW with 5 and 6-8 signals and got 5 and 6 from David. The distance involved between them is 100 miles and betters 3ZER/3-SAW by about 100 miles.

Late News.—Watch for VK2ZGC at Broken Hill on 51 Mc. He has been heard and worked from Melbourne.

The Bush Moonbounce Project is proceeding well and the antenna installation is very nearly complete.

Jock 3CS will soon be active on 288 Mc. using a 24 ft. long Yagi lent by 3ZAT. Peter 3ZDO is also on 288.15 transmitting only at the moment. 3ZAT has passed the morse and hopes to obtain 3LO in place of 3ZAT.—ZGOF.

50-54 Mc. BAND

At the request of the Institute, the P.M.G. Department has further extended the use of this band by Australian Amateurs until 31st December, 1961.

This approval has been granted on the understanding that if the band or portion thereof is required for television prior to 31st December, 1961, the Institute will arrange for it to be vacated by Amateur Stations within fourteen days of receipt of written request to do so.

TASMANIA

The next meeting of the Tasmanian V.h.f. Group will be on March 15. The January meeting included a talk by Barney TZAK on finding hidden 2 mx tx's. W.I.A. re-broadcasts continue on 50.88 Mc. and 144.28 Mc., and call ups taken by Alan 7MVY. Alan lost his mobile transceiver while on this job recently but should be back to normal by now.

50 Mc.: DX wise, the band was too quiet during this time; 7ZAO and 7ZAQ in VK5 and 7ZAI and 7ZAX also being absent. Thus conditions may not have been made the most of.

On 29th Dec., 7ZAC was up early, 0745 hrs, to work 3ZL and in the night he arrived with an excellent opening to all States: 7ZAI worked 6ZDS, 7ZAL also worked VK5. Other 6s heard but Interstate QRM seemed a bit too thick. 7ZAC also worked VK2 scattered as they worked ZL, western VK5, VK2 and VK4 also worked at excellent strength. On 4th VK4 worked by 7ZAC. Seemed to be little else during the Contest period. VK9XK was heard by 7ZAC and 7ZAJ (date uncertain), but couldn't be located.

Jan. 14 brought VK4 again followed by a good all-day opening to VK2 and VK4 on the 17th. 7ZAO and 7ZAO being active during the day and joined by others later on. VK3 seems to produce the strongest signals down here. Hugo 2WVH in this occasion sounding as strong at this QTH as is 15SW, local 1 mile away. A report in the local press told of the reception of ABTV Channel 2 in Alice Springs (over communication rx) on the 18th and 17th Jan. However no sign of the VK4 signal was heard at this QTH on 17th. VK3 again on the 21st. JAs were heard by 7ZAI on 22nd at 1630 hrs but none worked. Darrell 2ZLP popped up consistently at lunch time, as on 24th Jan. and was heard on 25th by 7ZAC brought the month to a close.

Local activity is looking up well, 7ZAS and 7ZAK both now well established. Michael Jenner, at New Norfolk, is due on 6 mx on receiving his call sign. Michael guarantees David 7ZAI has the strongest signal on any band, second to his town. We also hope to hear TAB from this locale. Ted 7ZAV is another we'd like to come down to 6 mx.

Philip 7ZAX, in between hawking soap powder, is on a major re-building programme—has spent some time concocting black iron

chassis and panels. News from the north tells of the return of TRL at Stanley to 8 mx, but the date is not known. David 7ZAK has el-Yagi soon; I believe sheds have been arranged between 3ZJE and 7LZ on 50 Mc.—results unknown down here at the moment.

144 Mc.: Two metres is missing out badly right now, but should have some come later on in the year. We'll have to find something to bridge the gap between Hobart home stations to Launceston and the North West Coast both on 2 and 6 mx. It may be a matter of hitting the right rocks on some of those 5.000 foot mountains. David 7ZAV will be operating portable on King Island during late February and possibly early March, looking for VK3 and VK7 contacts.

288 and 576 Mc.: One metre activity still hinges on mod. ocs. 7ZAI, running a 100-watt one, using a QGE6/40. 7ZAQ has a crystal detector and a 100-watt one.

576 Mc. is at last kicking off: 7ZAI has gear going as have 7ZAO and 7ZAS. Also interested are 7ZAK, 7ZAJ and 7ZAS.

Noticed 7ZAI and 7AS snooping around likely places in search of gear for 2,000 Mc. When is it?—ZAS.

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S W L

Maurice Cox, WIA-L3055
Flat 1, 37 Boyd Crescent,
Olympic Village, Heidelberg,
N.S.W., Victoria.

We, the office-bearers of the VK3 Group, are very interested in the progress attending figures at the Group meetings. These meetings, in case you don't know, are held on the last Friday of each month at the rooms, 478 Victoria Parade, at 8 p.m.

I myself have noticed that new members come along once or twice a month and then we don't see them again. Why? I would like to know. After all, the Group is for you and your hobby, why not practice it, tell me why you don't come in more; write me a letter, tell me what your groups are; better still, come to the meetings and tell me.

You know, chaps, I have a feeling that what it is, dry meetings, too much talk and not enough action; nothing for you to do but just sit and listen to a lot of things that don't interest you. Is that it?

So it's up to you boys to tell me and we will do something about it. Soon, I hope, with approval we will be able to have our own receiving station at the rooms. So keep your fingers crossed.

Quite a few visits have been arranged for the next few months so keep your eyes and ears open for further details.

probably enter the N.F.D. Contest (best of luck, Garry).

Colin will be on leave, but his brother Trevor is entering a log. Dale L3023 is having bug trouble with his No. 11. Colin has logged a new country—XWBAL. He has also had a SSB "rare" from Melbourne for use on 2 m. Colin received a letter from Bob Simmonds, of Iron Knob, and Bob has put up the WWO all-band antenna and he says it has given much improved reception on his 1136 rx. Colin is looking for some 6 mx converters—who can help? Thanks for the news, Colin.

TASMANIA

Michael writes with a query and wants to know what to do with members who live a long way from members. Michael writes to them with news of your activities down there. Keep in touch with each other; take note, you VK7 S.W.L.s, write to your Secretary with your activities, he can write them in a letter to me in the S.W.L. Notes.

Next month I'll give a list of VK7 S.W.L.s' names, their gnd and give them each month after that for other States, so you S.W.L.s can write me and tell me what gear you use, plus the antenna.

CORRESPONDENCE

I have received correspondence from the following: Don Granitay, L3068; Eric Trebilcot, L3034; Peter H. Hayes, L3035; Harry Major, Graham Rutter, L3091; Chas. Abernethy, L2211; Peter Horn, ZL337, soon to be a VK3 member.

John Walker, VK2, what a mail! Some of these guys write twice a month—I like it! Once again I repeat, everybody is welcome about their activities, the far they use plus antennas don't be frightened. Don't forget your QSL ladder scores, send them no matter how big or small.

Howard Harvey, L3034, of 27 Wainhouse St., Torrens-ville, Adelaide, has quite an antenna farm.

At the top is a 5 x 5 beam for 200 Mc. It is a 7 element beam for 144 Mc. Just visible at the bottom of the photo is a 1 metre ground-plane. A two element beam for 70 metres was added below the 2 mxx beam after the photo was taken.

20 metre two element beam (directive approx 30 degrees) spread 0.1 wavelength from dipole of 33 ft.). A 40 metre dipole is shown above the beam, but this has now been replaced with a new dipole coming from the point where the upper guys are attached to mast.

Eric says he has a plan. He's got to keep looking ahead two weeks or so. Do you know what he only listens one hour per day and before that does some QRT some times when the DX is at its highest. What a plan, I do not know how you do it Eric.

I met him the other night, he had just collected 60 QSLs for the month. He tells me he had a good Xmas, did a lot of travelling, had his mother visit, VK5—she was old and completed her 30th air trip. How about that, good for her. Eric's Federal QSL job is nearly finished. Ray is back now. Last month was Eric's busiest, 4,000 cards (none for me).

In 1960 he mailed 1,757 reports, received 916 QSLs from 125 countries and 37 zones; heard 178 countries in 40 zones; 49 ships, 6 motor cars. Up till 15/1/61, he had mailed 34 reports and had 1,000 QSLs from 9 countries and 9 zones. His all-time scores: 275 countries, 40 zones heard, with QSLs from 259 countries, plus 40 zones. Thanks Eric for that information, very good.

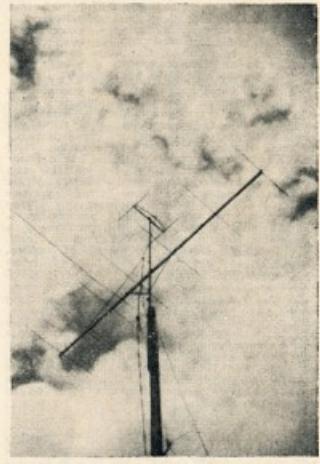
My mate, Donald Granitay, is next. He did not do as well as Albert, but he did obtain in the R.H. Contest. He got into the Xmas break though just as it finished. Obtained about 50 points and heard one VKS. He also heard a JA (more than we heard, Dom). He's put a coax input on the A.M. in lieu of plugs, re-sized the 600 ohm boxes circuit to 400 ohms. This improved the stability of the osc. and then he peaked the coil boxes again on the phone DX section. Other than 10 m, which hit the c.w. part as this is the i.f. for the converter. He obtained a 40 ohm 4 x 4 inch masts and is going to erect an end-

fed Zepp, 66 ft. long at about 45 ft. He's given me the gen on a vee beam, 33 ft. long each, 90 degree angle (no less) and fed with open wire feed line.

On awards, Dom says a s.w.l. version of the two W.L.A. awards on p. 13 of Jan. A.J.R. would be the club's points. I'll look into it. Don. Latest from Dom is that ART is under the bench and he is now using a Marconi R1155—more from him next month.

Howard Harvey, L3034, of Torrens-ville, writes that he has built a 100-watt transmitter for tuning 40, 20, 15 and has converters for 6 and 1 m. His antennae are: 40 mx half wave centre fed dipole, 30 ft. high; 20 mx two element beam, 21 ft. high; 15 ft. high; 15 and 10 mx double ended dipole, 21 ft. high; 6 mx two element beam, 21 ft. high; 2 mxx 7 element Yagi, 22 ft. high; and 1 mx 5 x 5 (vertical polarised), 27 ft. high. What an antenna farm, and his photos on this page prove it. He has yet to build rx's for 2 and 1 m. But he still is not satisfied and he will be getting a new rx soon—160 to 10 m. He has not been active much, only logged 58 QSOs, but has QSLs by report to 20 countries. More from Howard next month.

Eric Trebilcot is a hard hand; his early s.w.l. was done on a 1 valve adaptor plugged into an ordinary radio set. It was rather hot and enclosed in a metal case with a good earth.



so as not to cause any interference. With two audio stages, it brought in dozens of overseas stations and hundreds of local Amateurs (not likely now, Harry).

At the moment, he has a six valver, also spends a lot of time playing around with a 3 valve super regen, originally designed for 144 Mc., and he's been trying out coils for the lower frequencies but is not having very much success. He wonders if the section of "A.R." could arrange some articles on simple s.w. sets for young beginners. It would help the younger lads to get started.

Graham Rutter, L3091, is in a one-horse town called Peebinga, with the C.S.I.R.O. Division of Meteorological Physics. His only link with the outside world is a truck which won't load when one wants to use it. Birds find the antenna a good resting place and by the time he's ready to use it each day, he doesn't have a sky-hook. His equipment is a D.C.G.P. 100-watt transmitter, 120 ohm feed line, guard and lighthouse frequencies having QSO with the Met. Station on Neptune Island. He wishes he had a rx, the locale is good, no noise and high up. Hunting is the best and most interesting pastime, especially the rabbits with: there's so many of them. Save the money, Graham, and buy a rx'er.

Judging by what I have written here, I think I've used all my space. So I'll have to finish up now and write about Peter Horne and Chas. Abernethy next month.

There are no alterations to the QSL ladder, so will not include it. Till next month, this is your scribe going QRT, best of DX, 73, Maurice.

My personal thanks go to Ian Woodman for the splendid work he has done in arranging these for us. The most important matter is that of news. I always welcome letters from anybody, no matter who or where you are, every letter is answered personally, and if your letter contains something of interest to the other s.w.l.s I'll write it up in this page. Furthermore, I wish to thank all those who do write to me and there are a lot of you. Thanks again, chaps.

VICTORIA

We still plug along creating new members. We have now been issued our listeners' numbers. Incidentally, if you're a VK7 S.W.L. would like some QSL cards, just write to me and I'll forward some to you. These cards were printed by the Victorian Government Tourist Bureau. They are a very nice coloured card, a beautiful scene of a tourist attraction with its name on the back. There were a few errors made in the printing process, but they are easily overcome. I have sent out 10 already, the most I have emitted in 18 months.

Bert Stubbings spent his holidays at Deniliquin, New South Wales, while he was fishing, so spent eight hours a day listening on 6 m, then found out converter on the blink. Sorry to hear that Bert. We hope you have better luck on your next DX-pedition.

SOUTH AUSTRALIA

The Group has been very inactive, but on Jan. 18 a meeting was held to bring the Group into full swing again. Garry L3026 is at present constructing a 1 valve rx and will meet

FEDERAL

Fed. President: G. M. Hull, VK3ZS.

Fed. Asst. Secretary: W. Mitchell, VK3JUM, Box 2611W, G.P.O., Melbourne, C.I. Vic.

Federal Councillors:

New South Wales—Perc Healy, VK3APQ.

Victoria—Alan Elliott, VK3AEI.

Queensland—Herr Hinkler, VK4AO.

South Australia—L. H. Duncan, VK5AX.

Western Australia—Ron, VK6RW.

Tasmania—J. E. Cruise, VK3EJ.

Papua-New Guinea—Russ Colleton, VK9XK.

Fed. Contest Committee: Len Jensen, VK7LJ.

Chairman, Box 881J, G.P.O., Hobart, Tas.

QSL Bureau: R. E. Jones, VK3RJ, 23 Landale

Street, Box Hill, E.11, Vic.

Awards Manager: Alf Kissick, VK3JK, 1 Mac-

Farland Street, Brunswick, N.J.10, Vic.

NEW SOUTH WALES

President: W. J. Lewis, VK2YB.

Secretary: Norm Beard, VK5AJL. Address mail to Room 14 Atchison St., Crows Nest, N.S.W.

Meeting Night: Fourth Friday of each month at Science House, Gloucester Street, Sydney.

Science Committee: Russ Colton, VK7LJ.

16 Louren Street, Five Dock, Mrs. Whiting, VK2ACD.

QSL Bureau: 14 Atchison St., Crows Nest.

Frank Hine, VK5QL, Manager; assisted by

Allan Smith, VK2AER.

Post Correspondents: North Coast and Table-

lands: Ned Hanson, VK5AH, Ryan Ave.

West Kempsey; Hunter Branch: R. W. Rose,

VK2AQR, 17 Brooks St., West Wallsend;

Coalfields and Lakes: H. Hawkins, VK-

2YK, 100 Conroy Av., Cessnock; Western:

VK2WPH, "The Grove," 1000 Pitt St., West-

Coast & Southern: E. Fisher, VK2DY, 2 Oxide

St., Warrawong; Sth. Western: J. W. S. Edge,

VK2AJO, Wallace St., Coolamon.

FEDERAL

50-54 Mc. BAND

At the request of the Institute, the P.M.G. Department has further extended the use of the band to Australian Amateurs until 31st December, 1961.

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FEDERAL QSL BUREAU

Belatedly, perhaps, this Bureau reciprocates Season's Greetings received from the "DL," "OK" and "VE" Bureaus.

New address for the Cuban QSL Bureau is: Apartado Postal Num. 6969, Habana, Cuba.

By the time these notes are read, the c.w. section of the 1961 R.E.F. (French) DX Contest will be open. The results of the first contest section will be held from 1400 G.M.T. 15th April, to 2200 G.M.T., 18th April. Code is R/S plus three-figure number of contacts. Score 1 point for each French station contacted (France, Colonies, Multiplier is 1). Total department or each overseas country. Total score is points multiplied by multiplier. Scores to be forwarded to R.E.F., B.P. 42-01, Paris, R.P. France (closing date not stated).

So successful was the Boy Scouts' Jamboree on the Air, 1960, that already the week-end of 25th and 26th October is being made available for the 1961 event. Full details at a later date. The Executive Commissioner of the Boy Scouts International Bureau, Ottawa, Canada (VE-3JAM), desires to thank all those Hams who assisted in the 1960 event.

The QSL Manager of the Okinawa Amateur Radio Club has a list of the Club Address given for contacts with KR6 stations. In claiming, the number of contacts required is determined by the Zone in which the claimant is located. Further details from the Federal QSL Manager, VK2AIA.

As this is probably the last time I will be writing notes for this column (Ray VK3RJ is due back home early February), I desire to thank those readers who have commented favorably on my efforts.

73, Eric Treblecock (BERS-195), Acting Federal QSL Manager.

NEW SOUTH WALES

The month of January is a most important one in the year of the N.S.W. Division of the Wireless Institute owing to the fact that the

NOTES

VICTORIA

President: D. A. Wardlaw, VK3ADW.

Secretary: M. J. Owen, VK3ZEO.

Administrative: Secretary: M. J. Bellaire, 473

Victoria Road, East Melbourne, C.2. Postal address: P.O. Box 35, East Melbourne, C.2.

Meeting Night: First Wednesday of each month at the Radio School, Royal Melbourne Tech-nical College.

Divisional Sub-Editor: P. D. Williams, VK3UJ.

QSL Bureau: Inwards and Outwards—W.L.A.

Vic. Div., P.O. Box 36, East Melbourne, C.2.

Zone Correspondents: Western: W. J. Kinsella,

VK3AKW, Magdal, Lubeck; South Western:

D. J. Biddle, VK3PN, "Toroora," Broad-

water, via Port Fairy; Far West: W. M.

M. Folia, VK3GZ, 101 Lemon Ave., Mildura;

Midlands: R. Jonasson, VK3ND, Farnsworth

St., Castlemaine; North Eastern: T. K. Ten-

nant, Park St., Town; Eastern: J. F. Ryan,

VK3ZBR, and P. D. Williams, VK3GZV.

QUEENSLAND

President: W. J. Raft, VK4PR.

Secretary: G. Armstrong, VK4SA, Box 638J,

G.P.O., Brisbane.

Meeting Night: Fourth Friday in each month at the State Electricity Union Rooms, Elizabeth

Street, Brisbane.

Divisional Sub-Editor: W. J. Raft, VK4PR.

Willandra St., Alderley, Brisbane.

Annual Convention is held at Dural on the Saturday of the Australia Day week-end.

This year the Eleventh Annual Convention was opened by the monthly meeting at Science House, Gloucester Street, where there was an attendance much lower than would be expected. Some, no doubt, are still fortunate to be on leave elsewhere working, while yet a large proportion of our members apparently have found the attraction of the t.v. screen too much for them with the effect that they are no longer seen at meetings as regularly as in days of yore.

Those who did attend, however, heard an interesting lecture on Frequency Shift Keying, ably given by John Crozier of the Department of Civil Aviation. This was another of those interesting addresses which have been arranged by Harold VK2AAH, and in his lecture, John gave us an insight into this type of transmission which is being widely used by his Department in their communications

QSL Bureau: Jack Files, VK4JF, Vanda St., Buranda.

Zone Correspondents: Maryborough: R. J. Glassop, VK4BG, 30 North St., Maryborough; Townsville: R. K. Wilson, VK4RW, Hogan St., Stuart, Townsville.

SOUTH AUSTRALIA

President: L. F. Brice, VK5OK.

Secretary: J. C. Haseline, VK5JC, Box 1234K,

G.P.O., Adelaide. Telephone: M 7851.

Meeting Night: Second Tuesday of each month at the First Presbyterian Church Meeting Room, Cr. Flinders and Parry Streets.

Divisional Sub-Editor: W. R. Parsons, VK5PS.

QSL Bureau: G. Luxton, VK5RX, 27 Belair Rd., West Mitcham, S.A. (Inwards & Outwards).

WESTERN AUSTRALIA

President: Cole Sangster, VK5CS.

Secretary: L. S. Eddington, VK5LS, Box N1002,

G.P.O., Perth, W.A.

Meeting Night: Third Tuesday of month at 8:30 P.M. St. Luke's Church, South Perth.

Divisional Sub-Editor: P. H. Bond, VK5PH, 2 Barnsley St., Queen's Park, W.A.

QSL Bureau: Jim Rumble, VK5RU, Box P119,

G.P.O., Perth, W.A. (Inwards and Outwards).

TASMANIA

President: T. Allen, VK7AL.

Secretary: K. E. Millin, VK7KA, Box 82J,

G.P.O., Hobart.

Meeting Night: First Wednesday of each month at W.L.A. Clubroom, 147 Liverpool St., Hobart.

Divisional Sub-Editor: L. Nichols, VK7KZ, 9

Cressy St., New Town.

QSL Bureau: J. Batchelor, VK7JB, 39 Willow-

den Ave., Lower Sandy Bay, Hobart.

Zone Correspondents: North Western: George Terry Tong, VK7TT. Northern Zone—Hay Waldon.

network. John roused considerable interest in his subject and was quizzed following the lecture on some of the finer points of the system. The vote of thanks which followed was moved by Roy VK2IV and was passed in the usual manner.

Discussion followed, mainly initiated by Barry VK2AB, on the prospect of this mode being permitted on our frequencies in the future. This matter is being pursued and more will be heard on the subject at a later date.

At the close of the meeting there was little time left over, but the matter was easily and amicably conducted on the footpath, no doubt most members wishing to make an early start on the big day following.

It is well to remind members and others interested that on the second Friday of the month this is the mid-monthly meeting which is held at 14 Victoria St., Crown St., Sydney, which meeting some interesting lectures and displays are being arranged. Details of this meeting are always to be heard in the weekly broadcast from VK2WL. So fellows, make it a night each month, every month—2ACD.

HUNTER BRANCH

This being the month to change or not to change your local officers, how about you presenting yourself for duty. I doubt if anyone would object to being chosen in your favour and as Louis said "One good turn deserves another." The meeting night is 19th March at the University of N.S.W., Tighe's Hill, at 2000 hrs. As an added incentive, it is pretty certain that Harold VK2AAH will be there to talk about antenna theory and who better than his previous transistor story will need no convincing along. If Divisional President is coming, and we hope he is, maybe he had better walk.

The "Dural Do" for 1961 is now behind us. I broke all records to be there in time to hear a particular lecture, but found that the chapie had a car upgrade and decamped. A pity these things happen, but apparently you can lead a chapp to Dural but you can't keep him from disposals.

Noticed walking around the grounds were VK2CS, ZL2AKX, 2AFPA, 2RJ, 2AYL, 2ZDF, 2PZ, 2PZ, 2XTT, 2AEE, plus Messrs. Sutherland and McLean. They arrived and I found that they must have heard me coming as the gates were locked but was able to persuade a gentleman in a gown and wig to squeeze my car in a corner. I must say the grounds presented vast improvement to last year and I was close to the goings on. When I first parked so far away that when I went out to get my tea, I arrived back in time to go home. Harking back to the aforesaid gent in wig, etc., I was astonished to see that it was F.C.P. A.P.Q., which stands for Federal Councillor Per APQ who had only been appointed to



"That's funny, the ignition hash has stopped all of a sudden."

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that exalted position the night before. If Pierce does as good a job in that capacity as he did when he was Divisional President, all will be well, so look out F.E.-F.C.P. is on the job. One for your note book Pierce, and Dennis Parsons please copy: Tell SWI to keep off W41 during their broadcast on Sunday mornings.

I believe ZL1's ground network is missing up 2CS's pipeline at Killibin Bay. Varley 2SF's son was married early in the year and Tony Mulliner has moved back from his honeymoon. Wonder if it is true that a certain member has his poles chopped by an irate Indian. Understand that Gordon 2CI has had offers from the Tourist Bureau about his graphic work. He is now employed by the Eric 3VM, whilst stationary mobile on New Lambton Heights. His shepherding out of Newcastle was taken over by Romeo and Juliet, and the last I heard Eric was at Belmont.

Note with interest that it is 25 years since the first VK3 was passed away, but Hiram and his offspring Wouff-Hong and Rettynanitch are remembered.

Was very sorry to hear that the Melbourne Monitor, Roy Parker, passed away. I have been in communication with him ever since I came on the air in VK3 land and being a very sick man he obtained a lot of enjoyment by listening to the Amateurs.

The two G.O.'s, ZA2 and ZAQR, recently celebrated their 3,000th contact and boy what a lot of words have been wasted between those two. Secretary Gordon, so a bird tells me, is at last going to do a bit of study and trying for a better grade. However, he is bound for the Goon Show—must draw a line somewhere.

Looks like the Man in Melbourne has run out of call signs as Stuart 2ZDF is still waiting for a full call—there couldn't have been any stations in Melbourne as he came back from there without his usual tan. Of course anything can happen in VK3, so maybe they just skinned him.

Well chaps it is getting dark and I cannot afford to light the candle, so don't forget the Annual Meeting on the 16th, and no doubt Bill Hall's son will be in place on 2ZD. So, there may be a new correspondent for the next issue, all I can say is thanks for reading—2AQR.

VICTORIA

Last month there was no news. This month there is little. Two reasons are apparent for this; first, your scribe has been on vacation, second, nobody has sent him any news.

Please, please let me have some news and views for the broadcast and the notes—VK-VK-

W.I.A. D.X.C.C.

Listed below are the highest twelve members in each section. New members and those whose totals have been amended will also be shown.

PHONE

Call	Cer. C'nt- No. ries	Call	Cer. C'nt- No. ries
VK5HNU	4 243	VK6GKW	2 202
VK5KAB	4 243	VK4KHR	12 92
VK5AB	4 243	VK3KZB	3 176
VK4FJ	21 221	VK3GB	50 171
VK3WL	14 211	VK4RW	23 164
VK3ATN	26 204	VK3EE	10 163

Amendment:

VK3TG .. 48 112

C.W.

Call	Cer. C'nt- No. ries	Call	Cer. C'nt- No. ries
VK5KCB	10 298	VK4KHE	8 218
VK5KX	26 273	VK3XU	48 213
VK4FJ	29 264	VK4TL	17 212
VK3NC	19 238	VK6UR	18 210
VK3FH	15 226	VK3YL	39 203
VK3BZ	6 222	VK5RX	23 195

New Member:

VK3AX .. 68 119

OPEN

Call	Cer. C'nt- No. ries	Call	Cer. C'nt- No. ries
VK2ACK	6 282	VK5KBZ	4 231
VK4FJ	32 267	VK3HG	3 225
VK3NC	15 226	VK6UR	48 225
VK3MK	74 217	VK3XU	61 221
VK3NC	77 228	VK3XU	61 221
VK4HR	7 233	VK5KSW	13 216

3AKJ, John Battrick, 9 Bayview Rd., Frankston. Phone 33478.

Elvede Life Saving Club: Due to an appeal made over VK3WI one Sunday, three of our members, Ron JOM, Bill 3ARZ and Ian 3ZB have done good service by assisting the club with installation of antennae on their new premises and base station.

Dispersals: It is planned to enlarge the dispersals committee for 1961 and to greatly widen the scope of its activities. Very good work has been done by the present committee—Russell Bradshaw and Gordon Dennis—who have worked under great difficulty to obtain what equipment they could. We think that 1961 will see more activity in this direction with some more people to share the work, and a possibility of new avenues open for procurement.

February Monthly Meeting: How many were there at the meeting? A couple of dozen people? What would you like to have like? Excellent! Why so few people? Why?

Portable/mobile transistor power supplies; a 6 metre s.s.b. filter type mobile rig; and a 7 Mc. mobile set-up were shown and discussed by V. H. F. members AT and XYZ. The lectures were full of technical material and were very well presented with the actual equipment on display.

Contests: Thanks to those who were out on the National Field Day. Don't forget, the 1961 R.D. Contest is less than six months away!

American Advisory Committee: Council has received a report from the members of the Committee for 1961, viz. ZSO, 3OZ and 3WV.

VK3WI: The station at the rooms is working satisfactorily now, but there's still a lot to be done yet. What about it, chaps? V.H.F. gear now!

WESTERN ZONE

As these notes are penned BHU 3AKW is enjoying the cool climate of Mt. Nga where southerners are swanning on it. Bill's itinerary will take him to Sydney via Alice Springs, Darwin and Brisbane. Surely there's a shorter route to Sydney Bill!

Bert has found quite a few dry joints and leaky capacitors in his modulator there lately and now has one of the cleanest rigs in the Western Zone. Herb 3NN is at it again. This time it is 1 mx DX. Yes sir! and into VK5 too. Herb, aided by Gary and Michael, and David, Samson, Penola, S. B. been over a distance of 90 miles and running 16 watts. F.B. Herb, you've got me interested.

Merv 3AFO has just finished modifying and aligning his ATX rx with pleasing results. The local S.E.C. mains hash was only ST before, but now it's 59 plus (darn it). His rx also strung up two m.m. antenna's on 20 m. and the birds haven't a chance around here now.

Gordon 3GW and Barry are busily engaged in knocking up an inductance bridge—no choke! Keith 3ATS is planning a table-top tx conforming to modern standards. Vic 3AEG, who hauls from Murton also, will be on before the year is out, presumably. Wilson 3AKU, completely re-built by Wilson, 3AKU, a newcomer to Amateur Radio, from south of Horsham, will be on the lower bands with an AT5 just as soon as work and rural fire brigade radio network commitments permit—S.A.F.O.

SOUTH WESTERN ZONE

Our congratulations go to Brian 3NN and XYL Helen on the arrival of another harmonic, the third and a YE too. Rumour has it that this is the first of a series of similar notices. No, not. No, not. We mean that the old bird may be visiting other places in the Zone too. Brian has taken a little time off to get the mobile rig really on the nose, sorry beam.

John 3AMC has been heard using the new modulator on 80 m. lately. Eric 3XL, who surely must have a hankering for the same job, is by way of being off the news now. His 3KO will be spending some leisure hours in the zone with his ATR2B.

Tony 3WB has plans for another mobile, centred around the 108 set. The rx side will use a 5763 xtal rec. and driving stage on 160 m. to 10 m. with plug-in coils and link coupling. A carbon mike will be transformer coupled to the 2262 Heising modulator. The rx section will be substantially unaltered except for the beefing up of the audio section.

Although the local bands have been rather quiet lately, DX is still about and occasional listening on 20 m. has revealed that Jack 3JA and Norm 3NC are still getting amongst em. Very short skip did bring in quite a few VK3's on several occasions, but no zone stations were heard.

The resumption of the Sunday broadcasts from SWI have continued to lay down a mighty signal from the new tx and we are

looking forward to the christening of the 80 mc. section.

Our silent members, the associates, are none the less making their presence felt in various ways. Up Westmire way changes in the organisation of the network have taken some of the load off of Gordon's shoulders and the job is going along nicely with quite a few new members this season. Secretary of the group is Tom Kinnerly, of whom mobile rig VL3KHN is mentioned before. A note has come to light mentioning two s.w.l.'s from over Casterton, Jim Morph and Fred Boudreuil. Unfortunately, as far as I tell, no one help further?

The National Field Day Contest has passed into history now. At least one zone station into a mobile and did very well on 7 Mc. The poor one on 10 m. on 3 Mc. He was Brian 3XN who came in on the Hopkins River. The 3AKN mobile blew up after one QSO and we retired to the home station instead; much more comfortable there. The 80 m. band was very good all day on Sunday and very few stations used it. We did and worked 3ADW/P, manned on this band by Keith 3YQ.

The W.I.C.E.N. practices have continued to be poorly attended. The time and dates for those who keep getting out of touch at 2300 hours on the second Tuesday and last Sunday of each month are as follows: Special sledges have been arranged on every declared fire day and days of extreme danger which so often precede a declared day in this western side of the State. The initial sled is a 6712 hrs on the 10th and the sleds on the 2nd, 4th, 6th, 8th, 10th, 12th, 14th, 16th, 18th, 20th, 22nd, 24th, 26th, 28th, 30th, 32nd, 34th, 36th, 38th, 40th, 42nd, 44th, 46th, 48th, 50th, 52nd, 54th, 56th, 58th, 60th, 62nd, 64th, 66th, 68th, 70th, 72nd, 74th, 76th, 78th, 80th, 82nd, 84th, 86th, 88th, 90th, 92nd, 94th, 96th, 98th, 100th, 102nd, 104th, 106th, 108th, 110th, 112th, 114th, 116th, 118th, 120th, 122nd, 124th, 126th, 128th, 130th, 132nd, 134th, 136th, 138th, 140th, 142nd, 144th, 146th, 148th, 150th, 152nd, 154th, 156th, 158th, 160th, 162nd, 164th, 166th, 168th, 170th, 172nd, 174th, 176th, 178th, 180th, 182nd, 184th, 186th, 188th, 190th, 192nd, 194th, 196th, 198th, 200th, 202nd, 204th, 206th, 208th, 210th, 212nd, 214th, 216th, 218th, 220th, 222nd, 224th, 226th, 228th, 230th, 232nd, 234th, 236th, 238th, 240th, 242nd, 244th, 246th, 248th, 250th, 252nd, 254th, 256th, 258th, 260th, 262nd, 264th, 266th, 268th, 270th, 272nd, 274th, 276th, 278th, 280th, 282nd, 284th, 286th, 288th, 290th, 292nd, 294th, 296th, 298th, 300th, 302nd, 304th, 306th, 308th, 310th, 312nd, 314th, 316th, 318th, 320th, 322nd, 324th, 326th, 328th, 330th, 332nd, 334th, 336th, 338th, 340th, 342nd, 344th, 346th, 348th, 350th, 352nd, 354th, 356th, 358th, 360th, 362nd, 364th, 366th, 368th, 370th, 372nd, 374th, 376th, 378th, 380th, 382nd, 384th, 386th, 388th, 390th, 392nd, 394th, 396th, 398th, 400th, 402nd, 404th, 406th, 408th, 410th, 412nd, 414th, 416th, 418th, 420th, 422nd, 424th, 426th, 428th, 430th, 432nd, 434th, 436th, 438th, 440th, 442nd, 444th, 446th, 448th, 450th, 452nd, 454th, 456th, 458th, 460th, 462nd, 464th, 466th, 468th, 470th, 472nd, 474th, 476th, 478th, 480th, 482nd, 484th, 486th, 488th, 490th, 492nd, 494th, 496th, 498th, 500th, 502nd, 504th, 506th, 508th, 510th, 512nd, 514th, 516th, 518th, 520th, 522nd, 524th, 526th, 528th, 530th, 532nd, 534th, 536th, 538th, 540th, 542nd, 544th, 546th, 548th, 550th, 552nd, 554th, 556th, 558th, 560th, 562nd, 564th, 566th, 568th, 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856th, 858th, 860th, 862nd, 864th, 866th, 868th, 870th, 872nd, 874th, 876th, 878th, 880th, 882nd, 884th, 886th, 888th, 890th, 892nd, 894th, 896th, 898th, 900th, 902nd, 904th, 906th, 908th, 910th, 912nd, 914th, 916th, 918th, 920th, 922nd, 924th, 926th, 928th, 930th, 932nd, 934th, 936th, 938th, 940th, 942nd, 944th, 946th, 948th, 950th, 952nd, 954th, 956th, 958th, 960th, 962nd, 964th, 966th, 968th, 970th, 972nd, 974th, 976th, 978th, 980th, 982nd, 984th, 986th, 988th, 990th, 992nd, 994th, 996th, 998th, 1000th, 1002nd, 1004th, 1006th, 1008th, 1010th, 1012nd, 1014th, 1016th, 1018th, 1020th, 1022nd, 1024th, 1026th, 1028th, 1030th, 1032nd, 1034th, 1036th, 1038th, 1040th, 1042nd, 1044th, 1046th, 1048th, 1050th, 1052nd, 1054th, 1056th, 1058th, 1060th, 1062nd, 1064th, 1066th, 1068th, 1070th, 1072nd, 1074th, 1076th, 1078th, 1080th, 1082nd, 1084th, 1086th, 1088th, 1090th, 1092nd, 1094th, 1096th, 1098th, 1100th, 1102nd, 1104th, 1106th, 1108th, 1110th, 1112nd, 1114th, 1116th, 1118th, 1120th, 1122nd, 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1874th, 1876th, 1878th, 1880th, 1882nd, 1884th, 1886th, 1888th, 1890th, 1892nd, 1894th, 1896th, 1898th, 1900th, 1902nd, 1904th, 1906th, 1908th, 1910th, 1912nd, 1914th, 1916th, 1918th, 1920th, 1922nd, 1924th, 1926th, 1928th, 1930th, 1932nd, 1934th, 1936th, 1938th, 1940th, 1942nd, 1944th, 1946th, 1948th, 1950th, 1952nd, 1954th, 1956th, 1958th, 1960th, 1962nd, 1964th, 1966th, 1968th, 1970th, 1972nd, 1974th, 1976th, 1978th, 1980th, 1982nd, 1984th, 1986th, 1988th, 1990th, 1992nd, 1994th, 1996th, 1998th, 2000th, 2002nd, 2004th, 2006th, 2008th, 2010th, 2012nd, 2014th, 2016th, 2018th, 2020th, 2022nd, 2024th, 2026th, 2028th, 2030th, 2032nd, 2034th, 2036th, 2038th, 2040th, 2042nd, 2044th, 2046th, 2048th, 2050th, 2052nd, 2054th, 2056th, 2058th, 2060th, 2062nd, 2064th, 2066th, 2068th, 2070th, 2072nd, 2074th, 2076th, 2078th, 2080th, 2082nd, 2084th, 2086th, 2088th, 2090th, 2092nd, 2094th, 2096th, 2098th, 2100th, 2102nd, 2104th, 2106th, 2108th, 2110th, 2112nd, 2114th, 2116th, 2118th, 2120th, 2122nd, 2124th, 2126th, 2128th, 2130th, 2132nd, 2134th, 2136th, 2138th, 2140th, 2142nd, 2144th, 2146th, 2148th, 2150th, 2152nd, 2154th, 2156th, 2158th, 2160th, 2162nd, 2164th, 2166th, 2168th, 2170th, 2172nd, 2174th, 2176th, 2178th, 2180th, 2182nd, 2184th, 2186th, 2188th, 2190

1961 EDITION

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various offices were being filled and they might be prevailed upon to accept." Quite pleasing that only 15 were present, most offices were balloted for and the voting was close. Eddie held the chair position and Sid, who after moved a notice of motion that the club affiliate with the W.L.A. Looks like being carried this time with a large majority. The new publicity officer, Frank Sturges, is on the ball, had a large para in the local paper on the doings of the Council.

It is to be hoped that the aspirants at the last examination were all successful. Claude 4UX reported his class doing well and the Z boys are coming along nicely on c.w. Speaking of c.w. how many of the boys have read the article in Nov. "C.W." "Some of My Best Friends are Novices," by K9MYW.

Basil 4ZW in Cairns has four in his class and they hope to take the April examination. Certainly things are looking up; new voices on the band while the old ones silently fade out.

Heard that the impact of t.v. is now being felt in Brisbane and very poor roll up to the meetings. Consequently the country members wonder what is happening—no news being heard from Sunday broadcasts.

As the 50 Mc. Rock Hill Contest is over, can hardly wait to see the top number of contacts as conditions were very bad, only managing 44 QSOs myself; no openings to ZL or JA from Townsville.

See by a late issue of R.S.G.B. Bulletin reference back to contents of my letter which appeared a year ago in "A.R." reference to t.v. interference. Certainly our magazine is being well read.

Bob 4TK just out of hospital again after a check up and now home again. Hopes to do more re-building in the future. Allan 4PS from Victoria to Adelaide, he looks up his VK4KPS call signs and I am sure he will be OK. He will be no r.f. flashes or sparks as that will blind him with the art of the pen.—4RW.

WIDE BAY AND BURNETT SUB-BRANCH

The annual meeting of this Sub-Branch was held at Gympie on 25 January, with an attendance of 16 members and associates. There were four from Maryborough and 12 from Gympie and further south.

Zone President, Gordon 4GH, reported a successful year, with increased membership. Six associates sat for the last A.O.C.P., so some new calls would soon be heard.

Election of officers resulted as follows: President, Gordon 4GH; Hon. Secretary, Barry 4LN; Hon. Treasurer, Jim 4HZ.

A full report was received from Stan 4SA, our delegate on the State Council of the W.L.A. Due to other commitments, Stan was relieved of his position, and Bill 4WX was appointed.

SOUTH AUSTRALIA

Well, here we are again, VK5 sweltering under a heat wave. I am slaving over a hot typewriter, whilst everybody else sips ice water in front of an electric fan, or admires the scenery on the sea front. The only thing that keeps me going is the statement in the monthly magazine that all sub-editors' money would be raised to double what they get now.

The monthly general meeting of the VK5 Division was held to a very representative gathering of members and visitors, the guest speaker being Mr. G. J. Quorn, who's subject was television as applied to the studio set-up, although in his talk he covered practically all aspects of the art, maintaining a non-technical approach to the whole subject which was appreciated by the peasants including myself, sitting in the back room. It was my intention to give the talk in detail in the notes, but as usual my intentions were frustrated by the Council, due to their shortsighted prevention from sending the blackboard copy to me of my notes. I offered to take a photo of the blackboard with my Brownie box camera and send that along to the magazine, but all I got from Council was sniggers, in fact one uncouth member suggested that my notes were probably have holes in the bellows or something and I was so upset that I only retire into a corner and have a good cry.

Buck 3PU proposed the vote of thanks to the speaker, and the audience, and the speaker, was a definite indication of the success of the entertainment provided by Sid. Talking to several of the members who did not make the meeting for various reasons, every one of them said that if they had known that the talk was going to be so interesting, on the night, they could have certainly attended, and suggested that the lecturer be named in the weekly notes in the paper. I

quite see their point and promised to do this whenever possible, however my experiments so far with a crystal ball have not been very successful and I am forced to rely on the programme organisers for my information, and apparently they are not giving us more success with their crystal ball than I am. Anyway, we have mystery hikes, mystery weekends, mystery voices, so why not mystery lecturers. What's that? They used to always say that the lecturer would be "Oh yes, but that was when a lot of old buffers were on the Council."

Little or no business was transacted at the meeting and for once the members retired to their court of virtue at a respectable hour, much to the amazement of their better-three-quarters who wondered if they were sickening for something or other.

Rek SDO heard on 7 Mc. the other Sunday morning giving directions as to how to find his QTH to a VK3, and was quite surprised to find that he was in the same town. When I asked him where he was, he said "I'm a joker these days; why can I remember when he was the Federal Councillor, he was always making statements to the daily paper, most of which he read for the first time on opening the paper, but they're like Brer Rabbit, he says nothing. He used to reckon I made them all up, but I never allowed his flattery to divert me from my duty."

Levs SNU heard portable from Port Vincent the other weekend on the VK5 crack and a very good signal it was. This particular location seems to be very popular with the portable boys and I must admit that any signals that I have heard from that direction have all been extra good. Bernie SWC was another to be heard on 7 Mc. and I am sure he sounded his usual chaser self despite the heat and a bad attack of power interference.

Heard the two Leigh Creek boys on also, Wally 5DF and Tom 5AQ. One or the other was having me on, both in the same town and one says that it was extremely hot, and Tom being the veteran resident, his judgment must be respected—so-o-o-e-o-o. Wally, you have some hot weather to look forward to in the near future. That's all right, don't mention it. Bob SHI was another one to be heard now and I am sure he was in the same place as he is usually. I am sure he will be a cooler place than the normal QTH of Mt. Bryan. The five watts was doing a good job, Bob, especially around the metropolitan area.

Everybody wants to get into the act! The place where I sign the time book has always been referred to me in these notes as the first station in the State, now what do I hear? Keith 5WI telling a station on 7 Mc. that he was not in the National, but the first bank in the Commonwealth. Well, the last can be true.

Received an interesting letter and a newspaper cutting from the local Alice Springs paper from Frank SAE the other day, also a special pat on the back for a local school boy, Graham Jenkins who recently passed his Limited Exam at the age of 15 years. A product of the Alice Springs Youth Centre Amateur Radio Club, he has always been interested in Radio, although it is only since coming to Alice from Quorn, that his mother encouraged him to join the club and further his interest. He will be back on our band, but will wait until he has his Leaving Certificate in the bag. Nice work, Graham, welcome to the ranks, and remember to keep up that code practice.

The abovementioned club started in 1958 and was formed by a group of enthusiasts of an Amateur Radio Station at the 1957 Youth Centre sports day and hobbies exhibition, organised by Tom STL who was the postmaster at the time; Mr. R. Umberger, SUM, an American Serviceman stationed there at the time and Frank (base name SAE, now SAE). Mr. George Brown, base director of the Flying Doctor Service, has helped with the code practice, and Frank has handled the theory, and he says that if you want to improve your theory, take on the DX side of the game, the younger ones and you will be flat out to keep in front of them. Frank says that it is hard work, and takes up a lot of time, but he hopes that he has done it with the same good grace that Nostalgia 4TV gave him time to help him back in 1956 to 1960. This, I think, sums up the whole thing, don't you? Many thanks for the dope, Frank.

Everybody was tickled pink to hear Buck 3PU bob up on 5SWI cold-back the other Sunday. He rounded off his long sojourn in the sick bed and took the opportunity to thank everybody for their cards and enquiries as to his health. Buck is one of the real old-timers, old in our hobby, but reasonably young in years. I am sure he is quite up to date with the representative of the old buffers in Amateur Radio in VK5, but compared to Buck and his ilk, I am only a baby in

arms. He was active in the game when I was just a curious short wave listener. Nice to hear you, OM, take it easy!

If the gossip, the grapevine, the chatter over the back fence plus the mutterings in the v.h.f. down the road can be believed, according to Editor, Kel 3ZFP, has been having a whale of a time up at Alice Springs. Despite the combined warnings of Myself and Tom STL as to just what he would encounter up there at this time of year, he has probably come out the unknown, and will probably return a sadder but wiser, v.h.f. enthusiast. I had a standing order with Chief Stagnant Water of the Hooby Dooby tribe to give Kel a tap on the scene with a Nulla Nulla if he saw him. No result, so I am sure a Nulla Nulla is he given. No result, so I am sure a Nulla Nulla is he given. (Panies do not grow in VK5—Editor.)

There is an old saying that there is nothing new in Radio, only repetition dressed up in a new guise. I am sure that this is still true, the world when I made an unofficial survey of the Amateur bands for two or three years. When I came into Amateur Radio in 1932 there was a small select band of enthusiasts on each band, everybody knew everybody, and a strong bond of fellowship existed between them. This has lasted for all time, but many others during the boom time of Amateur Radio, this was all lost due to the numbers on the bands, but if you care to check on the bands today you will find the same call signs on each day on each band, and once again the same Christian names being given at first contact, and not after consulting a card index. Whether this is to the good or to the bad, I will not comment, but it is certainly good Amateur Radio.

The 3N8-5NQ combination now have their 20 and 15 m. beams installed on top of a 40 ft. tower. My spies report that Tubby 5NO is going on s.s.b. because he has a 2 1/2 element beam on 21 Mc. the end of the reflector is broken. Jim 5PQ has migrated to Whyalla for a quiet rest, leaving the fort and any DX signals to Dad to handle.

Bent 5BP has been heard occasionally using what he calls the only form of transmission worth using, with s.a.k.k. (suppressed audio keyed carrier). His mobile is now sporting a code or multicelled panel. First its green, then yellow, then blue, then white, and then to cap it all it becomes an indigo brown. It has to be seen to be believed! Ian 5XQ is torn between the devil (a.s.b.) or the deep (m.s.b.) voice. All he requires to come mobile is a turnable 1/2 strip, hanging on his converter which hangs on something, which hangs on something else. Ron 5FY has been heard on 14 and 21 Mc. at times, but he finds the going hard at times competing against the big stations. He is heading north, and heading south. Don 5TM has been quite active on 6 m. and is working all that he can hear. The outcome of all this is, of course, that it is decidedly peaceful on 21 Mc. these days!

Clive SFE has been busy with the club project and I find that the most difficult job he has struck is dealing with the members of the club (who originally volunteered to run one) interested. Now what about it? he has put a lot of work (including cash) into the chassis-cabinet department so why should he be yesterdays news? Keith 5EJ has been down from the north for the Xmas break and managed to snare some of the backlog of DX. Pete SHB has been doing his share of activity with his QRP rig (10w.), and is using a Super Pro for his 5PQ rig for everybody's benefit. I am not for his receiving. Ed 5EN now has a mobile 228 Mc. rig in action and on a recent trip to the "Big Smoke" reports that he heard absolutely nothing, not a solitary sausage, not even 5PS was heard. Eh, eh, this isn't the aim typical, we have to check these notes more carefully.

John SEH has been beaten by the mild weather and has not been heard much. I understand that he is waiting for the weather to get a little hotter, say 10° or perhaps 11° before he starts his DXing again. Harry SEU is still doing a good job on 21 Mc. and more than getting his share of contacts. In response to the numerous enquiries received, I am in a position to say that his lawn is doing nicely, thank you. SAE 5GU and SEU are continuing with their absentees from the bands although a close watch is being kept for them, just in case they bob up at some spot or other. Another one who is missing is Robby 3PF, but there is reason for this, he is involved in trouble, he hasn't got out yet. Ken 5ZCH has been noticed pronouncing arm in arm with Hugo 5ZDA up and down the 6 m. band, engaged in friendly competition with another for the DX that 5TM has finished with. By the time you are reading this, your assumption is on my part, although I am assured that the Editor is forced to read it, a keen listener at Elizabeth in Bill Veral will have sat for his Limited and all

hope that the news will be good news. The Elizabeth club station, SLZ, will be operating in the Field Day and a 6 m station will be working as well, so the gang will be looking to the city for some mix portable/mobile contacts. Max, if you read this, it will be stale news, but I have no confidence where space for VK5 is concerned!

Probably it is my grey hair, or perhaps it is the size of my fallen chest that gives me a deceiving air of wisdom, but it is remarkable how often I have been asked if there is any cure. My answer will always be, "Read reading little bits out of the paper, or even wanting to discuss what happened to the when the band is starting to open up. Whilst I add to this, the best cure I can come up with, I must stress the point that open resentment by snarling, swearing, or even throwing one's call sign book on to the floor in simulated disgust will get you nowhere, in fact it will more often than not lead to quite a few tears, dooms slumbering over packing up suit cases and the threat of going home to mother. Not knowing of any sure cures, I can only give my method in the hope that it will work for you as simply as it does for me. When the band is starting to open up, get your girl to stand on a suitable chair and look her straight in the eyes and order her from the room in very severe tones. This usually works very well, although there have been occasional times when I have wished the band would continue, because the ambulance would arrive, and sometimes the stitches have taken the doctor a little time to fix up. Some of the gang solve the trouble by changing the issue by not switching on the rx at all, but this I regard as sheer cowardice, don't you? By the way, have there been any band openings lately?

For almost 12 months now the VK5 Division has sported themselves a journal. Posted out to the members every six months, it is filled a long-felt want of both the city and the country members. Improving each issue, it is a credit to all responsible, especially the Editor (Brian SCA) who should feel proud of his little pen and as many thanks to the Editors and their little red pencils. I cannot help myself to withhold praise when it is so deserved. One feather in its cap is the fact that this magazine ("A.R.") saw fit to reprint recently a paragraph from the journal, and gave credit to the VK5 and for any more.

Checking these notes before putting them to bed for this month, I am somewhat ashamed to note that quite a deal of "padding" is apparent in them. However, with no news from my spies in Mount Gambier or Renmark to hand, I am forced in to allow my imagination to run riot in an endeavour to keep up the motto of more space for VK5. The Editor, bless his little red pencil, will probably be so dehydrated following his trip to Alice Springs, that he will lack the energy to write another article, so I will take the liberty to say that he is well aware that I am of too modest a nature to impose on his noble generosity. Just as well Ron 3RN is not the present Editor, he took some bluffing, the tyrant. Still, what could one expect from someone who gave his old chums to short wave listeners to save tipping the dustman! Vive-la-VK5!

WESTERN AUSTRALIA

Well chaps here we are again after an absence of one month. I have had very little time and worked lots of portable. The reception down at Esperance is all what an Amateur could desire, no QRM and the Eastern States all roll in 5 x 9 plus. I would certainly like that up here in my QTH. Other clubs have portable teams like EXKO, Tel 6UO, SNMK and SWD coalescing at Waterman's Bay. Francis still has quite a bust throat by the sound of his voice, but it is getting brighter so cheers and T3 from the gang on the 10W band.

It does not seem as 1961 has got off to a good start at all, with the break between the W.L.A. and the V.h.f. Group apparently growing wider, owing to certain people on each side holding grudges of what happened back in 1956, and of their pig-headedness now in 1961.

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Both the names of the V.h.f. Group and the W.L.A. have a lot to be proud of, and no one group should want to change the name of the other in any way. I feel agreement could be reached to the benefit of both parties with both parties gaining from one another. Quote: "Together we stand, etc."

The V.h.f. Group gives the W.L.A. a reason for not wanting to come in with them, and that is that certain members of the Council of the W.L.A. are not liked by them, owing to the supposed dislike of the V.h.f. Group and of the things they have said about the V.h.f. Group in the past. All members of the W.L.A. Council were elected by all members of the W.L.A., some of whom are members of the V.h.f. Group. In the first place, most of the members did not cast votes, therefore it was assumed that each and every member who did not vote accepted those in office, for if they did not, I feel sure they would have voted against, seeing as some Council members have been in office many years. The V.h.f. Group devoted many of their leisure hours to the promotion of Amateur Radio and the only remuneration they receive is the "Progress" of our "Great Hobby", yet we see members of our own club who are prepared to devote any of their spare time to the administration of the Institute but criticise the way in which it is being run.

To these members I say it is in your power to help us to improve the position of the W.L.A. in your administrative body—the W.L.A. If a greater number of members and newer members took a more active part in both the W.L.A. and V.h.f. Groups, the older members of each group would be forced to come out of the set into the future and leave the groups back in 1956 where they belong and a sensible agreement reached as to the future of Amateur Radio in W.A.

In conclusion, it should be noted that this is the one State in which the Amateurs are divided administratively. Why?

Again I have not received any news from country Amateurs or city Amateurs regarding their activities, which makes the writing of these notes very hard. Have a look at VK5 notes and let me see if I can get ours to sound like theirs instead of the tone our notes have to take.

Well chaps, after this outburst, I suppose the question will be asked to write the letter, but I thought it was better to let ALL got together as one body, for the future of Amateur Radio as a whole, so I hope this does some good.—SPH.

TASMANIA

Those members who helped with the Scout Jamboree of the Air will be pleased to learn that boys from the Hobart area met in person both Amateurs who assisted in other States, and boys who spoke to our lads. These meet-ups took place at the Jamboree in VK5 early in January this year.

Bill TYF became established at Bond Bay, Port Davey, as from 1st February, 1961, for a period of three months. Bill can be heard on both 10 and 7 Mc., as well as under the call sign STAC on the appropriate out-station frequency.

The Club Room Fund-raising Committee held two functions in the month of January. One function was conducted in town, Charlie TKS and Bobbie ZAK, who are a real find, were a great success. It took three hours to find them. The Committee is delighted at the increased participation, both by way of direction finding, and by way of mobile gear shown at this function, and we encourage all members to do something about some form of activity. In excess of £5/10/- was raised for the Fund. The second function was a social evening to hear a tape from George IGC dealing with DXing around the world, and to view the 35 excellent slides of DX trips gathered together enjoyed the presentation, and £1/17/- was raised for the Fund.

At the February meeting of the Division, we were honoured by another address from Dr. Rever. He spoke on subject rarely noted from space the title being in our own. Humour, knowledge and an ability to reduce that knowledge to a level understood by the intelligent uninitiated made this lecture truly memorable. Dr. Rever expects to be in Tasmania for several days, so we confidently look forward to further absorbing addresses from him.

Remember the Annual Dinner to follow the Annual General Meeting on 25th March. This year we are particularly fortunate as we can bring along and we have both a dance floor, music, dinner and supper taken care of, in addition to the usual forms of conviviality. So come along and make this dinner an occasion to remember.

Band conditions have been generally poor for the past month, that is for the bands 23 Mc. and below. With static lessening, however, the 3.5 Mc. band is becoming really the most satisfactory of them all and I was delighted to work VRDTH on this band on 3rd Feb.

We were very pleased to welcome Dennis DUD and Hamid TMZ to our February meeting. Chen BV1HPT hopes soon to visit Australia and he is looking for VK contacts with the hope of meeting the operators personally in the not too distant future.—TZZ.

NORTH WESTERN ZONE

Disastrous news! Our President, Max TMX, got himself some rare DX last month in the form of "Mumpa". Sincerely hope you are now fully recovered Max and none the worse for the ordeal.

We had a tx hunt in January, which as usual was run in two sections. Syd 7SF was duly hidden away and transmitting very loudly at the appointed time for the first run, and George TXL was not a great while in "scenting" him out. All participants were soon on the scene and we adjourned to the main band room at Uptonwood for a picnic dinner. We had a very secluded hideout for the afternoon run, amongst the blood-sucking wogs imaginable. Anyway, more by good luck than anything, yours truly found him first and had to hide again on 10th Feb., but more of that later hunt later.

The radio control units, etc., for the Burnie Fire Brigade are at last giving full assistance to the Brigade and everything in the garden appears lovely; special thanks to Leon 7JP for the finishing touches he carried out.

Our first meeting for the New Year was on 7th Feb. Dennis TDR and I were present. We will also imagine there were plenty to talk about after the Xmas break. Supper was, as usual, and after a small auction affairs were wound up reasonably early. I believe quite a number of zone members are contemplating visiting Hobart for the Annual Dinner later this month.

Haven't heard many of the local chaps on the air over the past few months, though I take a listen most nights. David TMS has, I think, moved his long wire to a little over 500 feet and is getting reasonable results in some directions; still no luck with the bin cage though. Ken 7AI is still using his share of the band with his "duck talking" machine; and I'm led to believe the other Ken, 7JP, got a bit off resonance at a wine tasting affair recently.

Bob ZZAA hopes to be on 6 m very shortly; you'll be able to have a real local QSO. George I have worked Dennis TDR since he moved from our fair city, so he must have the rig somewhere near a power point. George TXL has a spotless record in VK5 and is transmitting from a friend's QTH in VK3 land. I called on Max TMX one night and found him at his favourite past-time of swapping yarns with ZLs, in fact I said a few words, too. See you all at the dinner.

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